# FORM 10-Q

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

(Mark One)

**x** **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended September 30, 2012

**OR**

**o** **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from __ to

Commission file number **1-12830**

# BioTime, Inc.

(Exact name of registrant as specified in its charter)

| **California** | **94-3127919** |
|---|---|
| (State or other jurisdiction of incorporation or organization) | (IRS Employer Identification No.) |

**1301 Harbor Bay Parkway, Suite 100**
**Alameda, California 94502**
(Address of principal executive offices)

**(510) 521-3390**
(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. xYes o No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). xYes o No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of “large accelerated filer,” “accelerated filer,” and “smaller reporting company” in Rule 12b-2 of the Exchange Act.

| | | | | |
|---|---|---|---|---|
| Large accelerated filer | o | | Accelerated filer | x |
| Non-accelerated filer | o | (Do not check if a smaller reporting company) | Smaller reporting company | o |

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). o Yes x No

APPLICABLE ONLY TO CORPORATE ISSUERS:

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date: 50,894,720 issued and outstanding common shares, no par value, as of November 5, 2012.

## PART 1--FINANCIAL INFORMATION

*Statements made in this Report that are not historical facts may constitute forward-looking statements that are subject to risks and uncertainties that could cause actual results to differ materially from those discussed. Such risks and uncertainties include but are not limited to those discussed in this report under Item 1 of the Notes to Financial Statements, and in BioTime's Annual Report on Form 10-K filed with the Securities and Exchange Commission. Words such as "expects," "may," "will," "anticipates," "intends," "plans," "believes," "seeks," "estimates," and similar expressions identify forward-looking statements.*

**Item 1. Financial Statements**

**BIOTIME, INC.**
**CONDENSED CONSOLIDATED BALANCE SHEETS**

| | September 30, 2012 (unaudited) | December 31, 2011 |
|---|---|---|
| **ASSETS** | | |
| CURRENT ASSETS | | |
| Cash and cash equivalents | $ 7,830,347 | $ 22,211,897 |
| Inventory | 56,968 | 51,174 |
| Prepaid expenses and other current assets | 1,861,407 | 2,692,303 |
| Total current assets | 9,748,722 | 24,955,374 |
| | | |
| Equipment, net | 1,251,083 | 1,347,779 |
| Deferred license and consulting fees | 712,981 | 843,944 |
| Deposits | 67,889 | 63,082 |
| Intangible assets, net | 21,089,661 | 18,619,516 |
| TOTAL ASSETS | $ 32,870,336 | $ 45,829,695 |
| | | |
| **LIABILITIES AND EQUITY** | | |
| CURRENT LIABILITIES | | |
| Accounts payable and accrued liabilities | $ 2,162,390 | $ 2,681,111 |
| Deferred grant income | 55,710 | 261,777 |
| Deferred license and subscription revenue, current portion | 354,703 | 203,767 |
| Total current liabilities | 2,572,803 | 3,146,655 |
| | | |
| LONG-TERM LIABILITIES | | |
| Deferred license revenue, net of current portion | 790,146 | 899,551 |
| Deferred rent, net of current portion | 60,462 | 66,688 |
| Other long term liabilities | 235,330 | 258,620 |
| Total long-term liabilities | 1,085,938 | 1,224,859 |
| | | |
| Commitments and contingencies | | |
| | | |
| EQUITY | | |
| Preferred Shares, no par value, authorized 1,000,000 shares; none issued | | |
| Common shares, no par value, authorized 75,000,000 shares; 50,868,932 issued, and 49,162,758 outstanding at September 30, 2012 and 50,321,962 issued, and 49,035,788 outstanding at December 31, 2011 | 120,905,891 | 115,144,787 |
| Contributed capital | 93,972 | 93,972 |
| Accumulated other comprehensive income | (197,384) | (122,749) |
| Accumulated deficit | (95,860,758) | (80,470,009) |
| Treasury stock at cost: 1,706,174 shares at September 30, 2012 and 1,286,174 shares at December 31, 2011 | (8,001,762) | (6,000,000) |
| Total shareholders' equity | 16,939,959 | 28,646,001 |
| Non-controlling interest | 12,271,636 | 12,812,180 |
| Total equity | 29,211,595 | 41,458,181 |
| TOTAL LIABILITIES AND EQUITY | $ 32,870,336 | $ 45,829,695 |

See accompanying notes to the condensed consolidated interim financial statements.

**BIOTIME, INC.**
**CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS**
**(Unaudited)**

| | Three Months Ended | | Nine Months Ended | |
|---|---|---|---|---|
| | September 30, 2012 | September 30, 2011 | September 30, 2012 | September 30, 2011 |
| **REVENUES:** | | | | |
| License fees | $ 337,633 | $ 54,900 | $ 549,521 | $ 201,589 |
| Royalties from product sales | 133,946 | 176,027 | 407,803 | 569,257 |
| Grant income | 441,630 | 746,426 | 1,518,086 | 1,605,612 |
| Sale of research products | 90,342 | 184,217 | 217,380 | 405,981 |
| Total revenues | 1,003,551 | 1,161,570 | 2,692,790 | 2,782,439 |
| Cost of sales | (169,734) | (18,516) | (273,916) | (58,808) |
| Total revenues, net | 833,817 | 1,143,054 | 2,418,874 | 2,723,631 |
| **EXPENSES:** | | | | |
| Research and development | (4,545,470) | (3,488,121) | (13,323,410) | (9,756,443) |
| General and administrative | (2,234,905) | (1,887,298) | (7,037,807) | (6,193,383) |
| Total expenses | (6,780,375) | (5,375,419) | (20,361,217) | (15,949,826) |
| Loss from operations | (5,946,558) | (4,232,365) | (17,942,343) | (13,226,195) |
| **OTHER INCOME/(EXPENSES):** | | | | |
| Interest income/(expense), net | 5,624 | 2,911 | 17,321 | 19,705 |
| Gain/(loss) on sale of fixed assets | (1,451) | (6,246) | (4,997) | (6,246) |
| Other income/(expense), net | 18,766 | (919) | (223,899) | 223,944 |
| Total other income/(expenses), net | $ 22,939 | $ (4,254) | $ (211,575) | $ 237,403 |
| NET LOSS | (5,923,619) | (4,236,619) | (18,153,918) | (12,988,792) |
| Less: Net loss attributable to the noncontrolling interest | 965,605 | 498,993 | 2,763,169 | 1,833,943 |
| **NET LOSS ATTRIBUTABLE TO BIOTIME, INC.** | $ (4,958,014) | $ (3,737,626) | $ (15,390,749) | $ (11,154,849) |
| Foreign currency translation gain/(loss) | (15,777) | 696,661 | (74,635) | (901,881) |
| COMPREHENSIVE NET LOSS | $ (4,973,791) | $ (3,040,965) | $ (15,465,384) | $ (12,056,730) |
| BASIC AND DILUTED LOSS PER COMMON SHARE | $ (0.10) | $ (0.08) | $ (0.31) | $ (0.23) |
| WEIGHTED AVERAGE NUMBER OF COMMON SHARES OUTSTANDING: BASIC AND DILUTED | 49,291,177 | 48,896,973 | 49,196,804 | 48,681,879 |

See accompanying notes to the condensed consolidated interim financial statements.

**BIOTIME, INC.**
**CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS**
**(Unaudited)**

| | Nine Months Ended | |
|---|---|---|
| | September 30, 2012 | September 30, 2011 |
| CASH FLOWS FROM OPERATING ACTIVITIES: | | |
| Net loss attributable to BioTime, Inc. | $ (15,390,749) | $ (11,154,849) |
| Adjustments to reconcile net loss attributable to BioTime, Inc. to net cash used in operating activities: | | |
| Depreciation expense | 283,637 | 260,646 |
| Amortization of intangible asset | 1,764,382 | 1,626,476 |
| Amortization of deferred license, royalty and subscription revenues | (220,764) | (186,035) |
| Amortization of deferred grant income | (261,777) | (261,777) |
| Amortization of deferred consulting fees | 582,186 | 582,186 |
| Amortization of deferred license and royalty fees | 82,129 | 82,125 |
| Amortization of deferred rent | (8,143) | 32,403 |
| Stock-based compensation | 986,769 | 828,395 |
| Options issued as independent director compensation | 454,366 | 427,516 |
| Reduction in receivables from the reversal of revenues | 205,926 | — |
| Write-off of security deposit | (3,634) | — |
| Write off of expired inventory | — | 1,510 |
| Loss on sale/write-off of fixed assets | 4,997 | 6,502 |
| Net loss allocable to noncontrolling interest | (2,763,169) | (1,833,943) |
| Changes in operating assets and liabilities: | | |
| Accounts receivable, net | (459,555) | (25,272) |
| Grant receivable | 584,744 | 256,714 |
| Inventory | (5,794) | 21,154 |
| Prepaid expenses and other current assets | 140,220 | (320,893) |
| Accounts payable and accrued liabilities | (699,155) | (331,072) |
| Other long term liabilities | (16,686) | (31,741) |
| Deferred grant income | 56,630 | 271,655 |
| **Net cash used in operating activities** | (14,683,440) | (9,748,300) |
| | | |
| CASH FLOWS FROM INVESTING ACTIVITIES: | | |
| Purchase of equipment | (205,135) | (780,524) |
| Payment of license fee | — | (1,500) |
| Cash paid, net of cash acquired for assets | — | (246,850) |
| Cash acquired in connection with merger | 292,387 | 5,908 |
| Proceeds from the sale of fixed assets | 4,500 | — |
| Security deposit (paid)/received | (529) | 250 |
| **Net cash provided by/(used) in investing activities** | 91,223 | (1,022,716) |
| | | |
| CASH FLOWS FROM FINANCING ACTIVITIES: | | |
| Proceeds from the exercise of stock options from employees | 286,552 | 106,153 |
| Proceeds from the exercise of stock options from directors | — | 112,328 |
| Proceeds from the exercise of stock options from outside consultant | — | 4,700 |
| Proceeds from the exercise of warrants | — | 425,000 |
| Proceeds from the sale of common shares of subsidiary | — | 3,213,500 |
| **Net cash provided by financing activities** | 286,552 | 3,861,681 |
| | | |
| Effect of exchange rate changes on cash and cash equivalents | (75,885) | (185,291) |
| | | |
| NET CHANGE IN CASH AND CASH EQUIVALENTS: | (14,381,550) | (7,094,626) |
| Cash and cash equivalents at beginning of period | 22,211,897 | 33,324,924 |
| Cash and cash equivalents at end of period | $ 7,830,347 | $ 26,230,298 |
| SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION: | | |
| Cash paid during the period for interest | $ 315 | $ 1,073 |
| SUPPLEMENTAL SCHEDULE OF NON-CASH FINANCING AND INVESTING ACTIVITIES: | | |
| Common shares acquired in connection with investment in subsidiary as part of Share Exchange and Contribution Agreement | $ 2,001,762 | $ — |
| Common shares issued in connection with investment in subsidiary | $ — | $ 6,000,000 |
| Common shares issued in connection with the purchase of assets | $ — | $ 2,300,000 |
| Common shares issued as part of merger | $ 1,802,684 | $ 2,600,000 |
| Warrants issued as part of merger | $ — | $ 954,879 |

See accompanying notes to the condensed consolidated interim financial statements.

**BIOTIME, INC.**
**NOTES TO THE CONDENSED CONSOLIDATED INTERIM FINANCIAL STATEMENTS**
**(UNAUDITED)**

**1. Organization, Basis of Presentation, and Summary of Select Significant Accounting Policies**

*General*– BioTime is a biotechnology company engaged in two areas of biomedical research and product development. BioTime has historically developed blood plasma volume expanders and related technology for use in surgery, emergency trauma treatment and other applications. BioTime's primary focus is in the field of regenerative medicine; specifically human embryonic stem ("hES") cell and induced pluripotent stem ("iPS") cell technology. Regenerative medicine refers to therapies based on stem cell technology that are designed to rebuild cell and tissue function lost due to degenerative disease or injury. hES and iPS cells provide a means of manufacturing every cell type in the human body and therefore show considerable promise for the development of a number of new therapeutic products. BioTime plans to develop stem cell products for research and therapeutic use through its subsidiaries. OncoCyte Corporation ("OncoCyte") is developing products and technologies to diagnose and treat cancer. ES Cell International Pte. Ltd. ("ESI"), a Singapore private limited company, develops and sells hES products for research use. BioTime Asia, Limited ("BioTime Asia"), a Hong Kong company, sells products for research use and may develop therapies to treat cancer, neurological, and orthopedic diseases. OrthoCyte Corporation ("OrthoCyte") is developing therapies to treat orthopedic disorders, diseases and injuries. ReCyte Therapeutics, Inc., formerly known as Embryome Sciences, Inc. ("ReCyte Therapeutics"), is developing therapies to treat vascular and blood diseases and disorders. Cell Cure Neurosciences Ltd. ("Cell Cure Neurosciences"), is an Israel-based biotechnology company focused on developing stem cell-based therapies for retinal and neurological disorders, including the development of retinal pigment epithelial cells for the treatment of macular degeneration, and treatments for multiple sclerosis. LifeMap Sciences, Inc. ("LifeMap") markets *GeneCards*®, the leading human gene database, and is developing an integrated database suite to complement *GeneCards*® that will also include the *LifeMap*™ database of embryonic development, stem cell research and regenerative medicine, and *MalaCards*, the human disease database. LifeMap will also market BioTime research products and *PanDaTox*, a database that can be used to identify genes and intergenic regions that are unclonable in E. coli, to aid in the discovery of new antibiotics and biotechnologically beneficial functional genes. LifeMap plans to commence research into the identification and development of novel cell lines for therapeutic products, including research on ACTCellerate™ human embryonic progenitor cell lines ("hEPC lines") using the LifeMap proprietary discovery platform, with the goal of identifying those hEPC lines that have greatest potential for use in the development of cell-based therapies for degenerative diseases. BioTime Acquisition Corporation ("BAC") was incorporated on September 24, 2012. BAC was incorporated to explore opportunities to acquire assets and businesses in the field of stem cells and regenerative medicine.

BioTime is focusing a portion of its efforts in the field of regenerative medicine on the development and sale of advanced human stem cell products and technology that can be used by researchers at universities and other institutions, at companies in the bioscience and biopharmaceutical industries, and at other companies that provide research products to companies in those industries. Products for the research market generally can be sold without regulatory (FDA) approval, and are therefore relatively near-term business opportunities when compared to therapeutic products.

BioTime's operating revenues have been derived primarily from royalties and licensing fees related to the sale of its plasma volume expander product, *Hextend*®. BioTime began to make its first stem cell research products available during 2008, but has not yet generated significant revenues from the sale of those products. BioTime's ability to generate substantial operating revenue in the near term depends upon its success in developing and marketing or licensing its plasma volume expanders and stem cell products and technology for medical and research use. On April 29, 2009, the California Institute of Regenerative Medicine ("CIRM") awarded BioTime a $4,721,706 grant for a stem cell research project related to its *ACTCellerate*™ technology. The CIRM grant covered the period of September 1, 2009 through August 31, 2012 and was paid in quarterly installments. BioTime recognized grant revenues of $261,776 and $1,047,107 during the three and nine months ended September 30, 2012.

Grant revenues for the three months ended September 30, 2012 also include $3,239 from the National Institutes of Health ("NIH"), $7,692 received by LifeMap Sciences, Ltd and $168,923 received by Cell Cure Neurosciences from the office of the Chief Scientist of Israel ("OCS"). For the nine months ended September 30, 2012, grant revenues also included $38,535 from the NIH, and $15,587 received by LifeMap Sciences, Ltd, and $416,857 received by Cell Cure Neurosciences from the OCS.

The unaudited condensed consolidated interim balance sheet as of September 30, 2012, the unaudited condensed consolidated interim statements of operations and comprehensive loss for the three and nine months ended September 30, 2012 and 2011, and the unaudited condensed consolidated interim statements of cash flows for the nine months ended September 30, 2012 and 2011 have been prepared by BioTime's management in accordance with the instructions from the Form 10-Q and Regulation S-X. In the opinion of management, all adjustments (consisting only of normal recurring adjustments) necessary to present fairly the financial position, results of operations, and cash flows at September 30, 2012 have been made. The condensed consolidated balance sheet as of December 31, 2011 is derived from the Company's annual audited financial statements as of that date. The results of operations for the three and nine months ended September 30, 2012 are not necessarily indicative of the operating results anticipated for the full year of 2012.

Certain information and footnote disclosures normally included in consolidated financial statements prepared in accordance with generally accepted accounting principles have been condensed or omitted as permitted by regulations of the Securities and Exchange Commission ("SEC") except for the condensed consolidated balance sheet as of December 31, 2011, which was derived from audited financial statements. Certain previously furnished amounts have been reclassified to conform with presentations made during the current periods. It is suggested that these condensed consolidated interim financial statements be read in conjunction with the annual audited condensed consolidated financial statements and notes thereto included in BioTime's Form 10-K for the year ended December 31, 2011.

*Principles of consolidation* – BioTime's condensed consolidated financial statements include the accounts of its subsidiaries. The following table reflects BioTime's ownership of the outstanding shares of its subsidiaries.

| Subsidiary | BioTime Ownership | Country |
|---|---|---|
| ReCyte Therapeutics, Inc. (formerly Embryome Sciences, Inc.) | 95.15% | USA |
| OncoCyte Corporation | 75.3% | USA |
| OrthoCyte Corporation | 100% | USA |
| ES Cell International Pte. Ltd. | 100% | Singapore |
| BioTime Asia, Limited | 81% | Hong Kong |
| Cell Cure Neurosciences Ltd. | 53.6% (1) | Israel |
| LifeMap Sciences, Inc. | 77.1% (2) | USA |
| LifeMap Sciences, Ltd. | (3) | Israel |
| BioTime Acquisition Corporation | 96.7% | USA |

(1) Cell Cure Neurosciences has agreed to issue additional ordinary shares to BioTime in exchange for BioTime common shares which will increase BioTime's ownership, directly and through ESI, to approximately 62.6%. See Note 11.
(2) LifeMap Sciences, Inc. has agreed to issue additional shares of its common stock to certain investors which will reduce BioTime's ownership 73.2%. See Note 9.
(3) LifeMap Sciences, Ltd. is a wholly-owned subsidiary of LifeMap Sciences, Inc.

All material intercompany accounts and transactions have been eliminated in consolidation. As of September 30, 2012 and as of December 31, 2011, we consolidated ReCyte Therapeutics, OncoCyte, BioTime Asia, Cell Cure Neurosciences, LifeMap Sciences, Inc., LifeMap Sciences, Ltd., and BAC as we have the ability to control their operating and financial decisions and policies through our ownership, and we reflect the noncontrolling interest as a separate element of equity on our condensed consolidated balance sheet.

*Certain significant risks and uncertainties* - BioTime's operations are subject to a number of factors that can affect its operating results and financial condition. Such factors include but are not limited to, the following: the results of clinical trials of BioTime's pharmaceutical products and medical devices; BioTime's ability to obtain FDA and foreign regulatory approval to market its pharmaceutical and medical device products; BioTime's ability to develop new stem cell research products and technologies; competition from products manufactured and sold or being developed by other companies; the price and demand for BioTime products; BioTime's ability to obtain additional financing and the terms of any such financing that may be obtained; BioTime's ability to negotiate favorable licensing or other manufacturing and marketing agreements for its products; the availability of ingredients used in BioTime's products; and the availability of reimbursement for the cost of BioTime's pharmaceutical products and medical devices (and related treatment) from government health administration authorities, private health coverage insurers, and other organizations.

*Use of estimates* – The preparation of consolidated financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

*Revenue recognition* – BioTime complies with SEC Staff Accounting Bulletin guidance on revenue recognition. Royalty revenues consist of product royalty payments. License fee revenues consist of fees under license agreements and are recognized when earned and reasonably estimable and also include subscription and advertising revenue from our online databases based upon respective subscription or advertising periods. BioTime recognizes revenue in the quarter in which the royalty reports are received, rather than the quarter in which the sales took place. When BioTime is entitled to receive up-front nonrefundable licensing or similar fees pursuant to agreements under which BioTime has no continuing performance obligations, the fees are recognized as revenues when collection is reasonably assured. When BioTime receives up-front nonrefundable licensing or similar fees pursuant to agreements under which BioTime does have continuing performance obligations, the fees are deferred and amortized ratably over the performance period. If the performance period cannot be reasonably estimated, BioTime amortizes nonrefundable fees over the life of the contract until such time that the performance period can be more reasonably estimated. Milestone payments, if any, related to scientific or technical achievements are recognized in income when the milestone is accomplished if (a) substantive effort was required to achieve the milestone, (b) the amount of the milestone payment appears reasonably commensurate with the effort expended, and (c) collection of the payment is reasonably assured. Grant income and the sale of research products are recognized as revenue when earned. Revenues from the sale of research products are primarily derived from the sale of hydrogels and stem cell products.

*Cash and cash equivalents* – BioTime considers all highly liquid investments purchased with an original maturity of three months or less to be cash equivalents.

*Accounts receivable and allowance for doubtful accounts* - Trade accounts receivable and grants receivable are presented in the prepaid expenses and other current assets line item of the consolidated balance sheet. Total trade receivables amounted to approximately $891,000 and $353,000 and grants receivable amounted to approximately $38,000 and $630,000 as of September 30, 2012 and December 31, 2011, respectively. Some of these amounts are deemed uncollectible; as such BioTime recognized allowance for doubtful accounts in the amount of $100,000 as of September 30, 2012 and December 31, 2011. BioTime evaluates the collectability of its receivables based on a variety of factors, including the length of time receivables are past due and significant one-time events and historical experience. An additional reserve for individual accounts will be recorded if BioTime becomes aware of a customer's inability to meet its financial obligations, such as in the case of bankruptcy filings or deterioration in the customer's operating results or financial position. If circumstances related to customers change, estimates of the recoverability of receivables would be further adjusted.

*Concentrations of credit risk* – Financial instruments that potentially subject BioTime to significant concentrations of credit risk consist primarily of cash and cash equivalents. BioTime limits the amount of credit exposure of cash balances by maintaining its accounts in high credit quality financial institutions. Cash equivalent deposits with financial institutions may occasionally exceed the limits of insurance on bank deposits; however, BioTime has not experienced any losses on such accounts.

*Equipment* – Equipment is stated at cost. Equipment is being depreciated using the straight-line method over a period of 36 to 120 months. See Note 3.

*Inventory* – Inventories are stated at the lower of cost or market. Cost, which includes amounts related to materials, labor, and overhead, is determined in a manner which approximates the first-in, first-out ("FIFO") method.

*Treasury stock* – BioTime accounts for BioTime common shares issued to subsidiaries for future potential working capital needs as treasury stock on the consolidated balance sheet. BioTime has the intent and ability to register any unregistered shares to support the marketability of the shares.

*Cost of sales* – BioTime accounts for the cost of research products acquired for sale and any royalties paid as a result of any revenues in accordance with the terms of the respective licensing agreements as cost of sales on the consolidated statement of operations.

*Patent costs* – Costs associated with obtaining patents on products or technology developed are expensed as general and administrative expenses when incurred. This accounting is in compliance with guidance promulgated by the Financial Accounting Standards Board (the "FASB") regarding goodwill and other intangible assets.

*Reclassification* – Certain prior year amounts have been reclassified to conform to the current year presentation.

*Research and development* – BioTime complies with FASB requirements governing accounting for research and development costs. Research and development costs are expensed when incurred, and consist principally of salaries, payroll taxes, consulting fees, research and laboratory fees, and license fees paid to acquire patents or licenses to use patents and other technology from third parties.

*Foreign currency translation gain/(loss) and Comprehensive loss* - In countries in which BioTime operates, and the functional currency is other than the U.S. dollar, assets and liabilities are translated using published exchange rates in effect at the consolidated balance sheet date. Revenues and expenses and cash flows are translated using an approximate weighted average exchange rate for the period. Resulting translation adjustments are recorded as a component of accumulated other comprehensive income on the consolidated balance sheet. For the nine months ended September 30, 2012 and 2011, comprehensive loss includes loss of $74,635 and $901,881, respectively which is entirely from foreign currency translation. For the nine months ended September 30, 2012 and 2011, foreign currency transaction gain and loss amounted to $39,930 and $90,774, respectively.

*Income taxes* – BioTime accounts for income taxes in accordance with the accounting principles generally accepted in the United States of America ("GAAP") requirements, which prescribe the use of the asset and liability method, whereby deferred tax asset or liability account balances are calculated at the balance sheet date using current tax laws and rates in effect. Valuation allowances are established when necessary to reduce deferred tax assets when it is more likely than not that a portion or all of the deferred tax assets will not be realized. The FASB guidance also prescribes a recognition threshold and a measurement attribute for the financial statement recognition and measurement of tax positions taken or expected to be taken in a tax return. For those benefits to be recognized, a tax position must be more-likely-than-not sustainable upon examination by taxing authorities. BioTime recognizes accrued interest and penalties related to unrecognized tax benefits as income tax expense. No amounts were accrued for the payment of interest and penalties as of September 30, 2012 and December 31, 2011. Management is currently unaware of any tax issues under review.

*Stock-based compensation* – BioTime adopted accounting standards governing share-based payments, which require the measurement and recognition of compensation expense for all share-based payment awards made to directors and employees, including employee stock options, based on estimated fair values. In March 2005, the SEC issued additional guidelines which provide supplemental implementation guidance for valuation of share-based payments. BioTime has applied the provisions of this guidance in such valuations as well. Consistent with those guidelines, BioTime utilizes the Black-Scholes Merton option pricing model. BioTime's determination of fair value of share-based payment awards on the date of grant using that option-pricing model is affected by BioTime's stock price as well as by assumptions regarding a number of highly complex and subjective variables. These variables include, but are not limited to, BioTime's expected stock price volatility over the term of the awards, and actual and projected employee stock option exercise behaviors. The expected term of options granted is derived from historical data on employee exercises and post-vesting employment termination behavior. The risk-free rate is based on the U.S. Treasury rates in effect during the corresponding period of grant. Although the fair value of employee stock options is determined in accordance with recent FASB guidance, changes in the subjective assumptions can materially affect the estimated value. In management's opinion, the existing valuation models, including Black-Scholes Merton, may not provide an accurate measure of the fair value of BioTime's employee stock options because the option-pricing model value may not be indicative of the fair value that would be established in a willing buyer/willing seller market transaction.

*Impairment of long-lived assets* – BioTime's long-lived assets, including intangible assets, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be fully recoverable. If an impairment indicator is present, BioTime will evaluate recoverability by a comparison of the carrying amount of the assets to future undiscounted net cash flows expected to be generated by the assets. If the assets are impaired, the impairment will be recognized is measured by the amount by which the carrying amount exceeds the estimated fair value of the assets.

*Deferred license and consulting fees* – Deferred license and consulting fees consist of the value of warrants issued to third parties for services and to the minority shareholder in BioTime Asia for consulting services, and deferred license fees paid to acquire rights to use the proprietary technologies of third parties. The value of the warrants is being amortized over the period the services are being provided, and the license fees are being amortized over the estimated useful lives of the licensed technologies or licensed research products. See Note 6.

*Loss per share* – Basic net loss per share is computed by dividing net loss attributable to BioTime, Inc. by the weighted-average number of common shares outstanding for the period. Diluted net loss per share reflects the weighted-average number of common shares outstanding plus the potential effect of dilutive securities or contracts which are convertible to common shares, such as options and warrants (using the treasury stock method) and shares issuable in future periods, except in cases where the effect would be anti-dilutive. Diluted loss per share for the three and nine months ended September 30, 2012 and 2011 excludes any effect from 3,492,135 options and 556,613 warrants, and 3,249,647 options and 636,613 warrants, respectively, as the inclusion of those options and warrants would be antidilutive.

*Fair value of financial instruments* – The fair value of BioTime's assets and liabilities, which qualify as financial instruments under FASB guidance regarding disclosures about fair value of financial instruments, approximate the carrying amounts presented in the accompanying consolidated balance sheets.

In June 2011, the FASB issued ASU No. 2011-05, *Comprehensive Income* (ASC Topic 220): *Presentation of Comprehensive Income*, ("ASU 2011-05") which amends current comprehensive income guidance. This accounting update eliminates the option to present the components of other comprehensive income as part of the statement of shareholders' equity. Instead, BioTime must report comprehensive income in either a single continuous statement of comprehensive income which contains two sections, net income and other comprehensive income, or in two separate but consecutive statements. ASU 2011-05 became effective for public companies during the interim and annual periods beginning after December 15, 2011 with early adoption permitted. The adoption of ASU 2011-05 does not have a material impact on its consolidated results of operation and financial condition.

**2. Inventory**

At September 30, 2012, BioTime held $43,018 of inventory of finished products on-site at its corporate headquarters in Alameda, California. At that same date, $13,950 of inventory of finished products was held by a third party on consignment. At December 31, 2011, BioTime held $37,096 of inventory of finished products at its corporate headquarters and $14,078 of inventory of finished products was held by a third party on consignment.

**3. Equipment**

At September 30, 2012 and December 31, 2011, equipment, furniture and fixtures were comprised of the following:

| | September 30, 2012 (unaudited) | December 31, 2011 |
|---|---|---|
| Equipment, furniture and fixtures | $ 2,062,655 | $ 1,900,090 |
| Accumulated depreciation | (811,572) | (552,311) |
| Equipment, net | $ 1,251,083 | $ 1,347,779 |

Depreciation expense amounted to $283,637 and $260,646 for the nine months ended September 30, 2012 and 2011, respectively. The difference between the depreciation expense recognized in the condensed consolidated statement of operations and the increase in accumulated depreciation of $259,261 per the condensed consolidated balance sheet is partially attributed to the write off of $21,658 of fully depreciated assets offset by foreign currency rates.

**4. Intangible assets**

At September 30, 2012 and December 31, 2011, intangible assets and intangible assets net of amortization were comprised of the following:

| | September 30, 2012 (unaudited) | December 31, 2011 |
|---|---|---|
| Intangible assets | $ 25,664,015 | $ 21,429,488 |
| Accumulated amortization | (4,574,354) | (2,809,972) |
| Intangible assets, net | $ 21,089,661 | $ 18,619,516 |

BioTime amortizes its intangible assets over an estimated period of 10 years on a straight line basis. BioTime recognized $1,764,382 and $1,626,476 in amortization expense of intangible assets during the nine months ended September 30, 2012 and 2011, respectively.

**5. Accounts Payable and Accrued Liabilities**

At September 30, 2012 and December 31, 2011, accounts payable and accrued liabilities consisted of the following:

| | September 30, 2012 (unaudited) | December 31, 2011 |
|---|---|---|
| Accounts payable | $ 708,961 | $ 1,118,112 |
| Accrued bonuses | — | 583,620 |
| Other accrued liabilities | 1,453,429 | 979,379 |
| | $ 2,162,390 | $ 2,681,111 |

The increase in other accrued liabilities is largely attributed to higher accrual of $1,220,878 for estimated expenses incurred but not yet billed compared to $977,958 at December 31, 2011. Also, included is $140,089 distributable to former XenneX, Inc. shareholders assumed as part of the merger of XenneX into LifeMap during May 2012. See Note 8.

**6. Royalty Obligation and Deferred License Fees**

BioTime amortizes deferred license fees over the estimated useful lives of the licensed technologies or licensed research products. BioTime is applying a 10 year estimated useful life to the technologies and products that it is currently licensing. The estimation of the useful life of any technology or product involves a significant degree of inherent uncertainty, since the outcome of research and development or the commercial life of a new product cannot be known with certainty at the time that the right to use the technology or product is acquired. BioTime will review its amortization schedules for impairments that might occur earlier than the original expected useful lives.

On January 3, 2008, BioTime entered into a Commercial License and Option Agreement with Wisconsin Alumni Research Foundation ("WARF"). The WARF license permits BioTime to use certain patented and patent pending technology belonging to WARF, as well as certain stem cell materials, for research and development purposes, and for the production and marketing of products used as research tools, including in drug discovery and development. BioTime or ReCyte Therapeutics will pay WARF royalties on the sale of products and services using the technology or stem cells licensed from WARF. The royalty will range from 2% to 4%, depending on the kind of products sold. The royalty rate is subject to certain reductions if BioTime also becomes obligated to pay royalties to a third party in order to sell a product. BioTime paid licensing fees, totaling $295,000 in cash and BioTime stock, and reimbursed WARF for certain costs associated with preparing, filing, and maintaining the licensed patents. In addition, BioTime pays WARF $25,000 annually as a license maintenance fee. The licensing fees less the amortized portion were included in deferred license fees in BioTime's condensed consolidated balance sheet as of September 30, 2012 and December 31, 2011.

On June 24, 2008, BioTime, along with its subsidiary, ReCyte Therapeutics, entered into a Product Production and Distribution Agreement with Lifeline Cell Technology, LLC for the production and marketing of human embryonic progenitor cells ("hEPC") or hEPC lines, and products derived from those hEPCs. The products developed under the agreement with Lifeline will be produced and sold for research purposes such as drug discovery and drug development uses. ReCyte Therapeutics paid Lifeline $250,000, included in the advanced license fee and other fees, to facilitate their product production and marketing efforts. BioTime will be entitled to recover that amount from the share of product sale proceeds that otherwise would have been allocated to Lifeline.

On July 10, 2008, ReCyte Therapeutics entered into a License Agreement with Advanced Cell Technology, Inc. ("ACT"), under which ReCyte Therapeutics acquired exclusive worldwide rights to use ACT's "ACTCellerate" technology for methods to accelerate the isolation of novel cell strains from pluripotent stem cells. ReCyte Therapeutics paid ACT a $250,000 license fee and will pay an 8% royalty on sales of products, services, and processes that utilize the licensed technology. Once a total of $1,000,000 of royalties has been paid, no further royalties will be due. The license will expire in twenty years or upon the expiration of the last to expire of the licensed patents, whichever is later. The $250,000 license fee less the amortized portion is included in deferred license fees in BioTime's condensed consolidated balance sheet as of September 30, 2012 and December 31, 2011.

On August 15, 2008, ReCyte Therapeutics entered into a License Agreement and a Sublicense Agreement with ACT under which ReCyte Therapeutics acquired world-wide rights to use an array of ACT technology (the "ACT License") and technology licensed by ACT from affiliates of Kirin Pharma Company, Limited (the "Kirin Sublicense"). The ACT License and Kirin Sublicense permit the commercialization of products in human therapeutic and diagnostic product markets.

The technology licensed by ReCyte Therapeutics covers methods to transform cells of the human body, such as skin cells, into an embryonic state in which the cells will be pluripotent. Under the ACT License, ReCyte Therapeutics paid ACT a $200,000 license fee and will pay a 5% royalty on sales of products, services, and processes that utilize the licensed ACT technology, and 20% of any fees or other payments (other than equity investments, research and development costs, loans and royalties) received by ReCyte Therapeutics from sublicensing the ACT technology to third parties. Once a total of $600,000 of royalties has been paid, no further royalties will be due. The license will expire in twenty years or upon the expiration of the last-to-expire of the licensed patents, whichever is later. The $200,000 license fee payment less the amortized portion is included in deferred license fees in BioTime's condensed consolidated balance sheet as of September 30, 2012 and December 31, 2011.

Under the Kirin Sublicense, ReCyte Therapeutics has paid ACT a $50,000 license fee and will pay a 3.5% royalty on sales of products, services, and processes that utilize the licensed ACT technology, and 20% of any fees or other payments (other than equity investments, research and development costs, loans and royalties) received by ReCyte Therapeutics from sublicensing the Kirin Technology to third parties. ReCyte Therapeutics will also pay to ACT or to an affiliate of Kirin Pharma Company, Limited ("Kirin"), annually, the amount, if any, by which royalties payable by ACT under its license agreement with Kirin are less than the $50,000 annual minimum royalty due. Those payments by ReCyte Therapeutics will be credited against other royalties payable to ACT under the Kirin Sublicense. The license will expire upon the expiration of the last to expire of the licensed patents, or May 9, 2016 if no patents are issued. The $50,000 license fee payment less the amortized portion is included in deferred license fees in BioTime's condensed consolidated balance sheet as of September 30, 2012 and December 31, 2011.

On February 29, 2009, ReCyte Therapeutics entered into a Stem Cell Agreement with Reproductive Genetics Institute ("RGI"). In partial consideration of the rights and licenses granted to ReCyte Therapeutics by RGI, BioTime issued to RGI 32,259 common shares, having a market value of $50,000 on the effective date of the Stem Cell Agreement. This $50,000 payment less the amortized portion is included in deferred license fees in BioTime's condensed consolidated balance sheet as of September 30, 2012 and December 31, 2011.

Through BioTime's acquisition of the assets of Cell Targeting, Inc. during March 2011, BioTime acquired a royalty-bearing, exclusive, worldwide license from the Sanford-Burnham Medical Research Institute ("SBMRI") to use certain patents pertaining to homing peptides for preclinical research investigations of cell therapy treatments, and to enhance cell therapy products for the treatment and prevention of disease and injury in conjunction with BioTime's own proprietary technology or that of a third party. BioTime assigned the SBMRI license to OncoCyte during July 2011. OncoCyte will pay SBMRI a royalty of 4% on the sale of pharmaceutical products, and 10% on the sale of any research-use products that OncoCyte develops using or incorporating the licensed technology; and 20% of any payments OncoCyte receives for sublicensing the patents to third parties. The royalties payable to SBMRI may be reduced by 50% if royalties or other fees must be paid to third parties in connection with the sale of any products. An annual license maintenance fee is payable each year during the term of the license, and after commercial sales of royalty bearing products commence, the annual fee will be credited towards OncoCyte's royalty payment obligations for the applicable year. OncoCyte will reimburse SBMRI for 25% of the costs incurred in filing, prosecuting, and maintaining patent protection, subject to OncoCyte's approval of the costs. OncoCyte incurred no royalty expenses during the year.

Cell Cure Neurosciences has entered into an Amended and Restated Research and License Agreement with Hadasit Medical Research Services and Development, Ltd. ("Hadasit") under which Cell Cure Neurosciences received an exclusive license to use certain of Hadasit's patented technologies for the development and commercialization for hES cell-derived cell replacement therapies for retinal degenerative diseases. Cell Cure Neurosciences paid Hadasit 249,058 New Israeli Shekels as a reimbursement for patent expenses incurred by Hadasit, and pays Hadasit quarterly fees for research and product development services under a related Product Development Agreement.

If Teva Pharmaceutical Industries Ltd. ("Teva") exercises its option to license *OpRegen*™ or *OpRegen-Plus*™ under the terms of a Research and Exclusive License Option Agreement (the "Teva License Option Agreement"), Cell Cure Neurosciences will pay Hadasit 30% of all payments made by Teva to Cell Cure Neurosciences, other than payments for research, reimbursements of patent expenses, loans or equity investments.

If Teva does not exercise its option and Cell Cure Neurosciences instead commercializes *OpRegen*™ or *OpRegen-Plus*™ itself or sublicenses the Hadasit patents to a third party for the completion of development or commercialization of *OpRegen*™ or *OpRegen-Plus*™, Cell Cure Neurosciences will pay Hadasit a 5% royalty on sales of products that utilize the licensed technology. Cell Cure Neurosciences will also pay sublicensing fees ranging from 10% to 30% of any payments Cell Cure Neurosciences receives from sublicensing the Hadasit patents to companies other than Teva. Commencing in January 2017, Hadasit will be entitled to receive an annual minimum royalty payment of $100,000 that will be credited toward the payment of royalties and sublicense fees otherwise payable to Hadasit during the calendar year. If Cell Cure Neurosciences or a sublicensee other than Teva paid royalties during the previous year, Cell Cure Neurosciences may defer making the minimum royalty payment until December and will be obligated to make the minimum annual payment to the extent that royalties and sublicensing fee payments made during that year are less than $100,000.

If Teva does not exercise its option under the Teva License Option Agreement and instead Cell Cure Neurosciences or a sublicensee other than Teva conducts clinical trials of *OpRegen*™ or *OpRegen-Plus*™, Hadasit will be entitled to receive certain payments from Cell Cure Neurosciences upon the first attainment of certain clinical trial milestones in the process of seeking regulatory approval to market a product developed by Cell Cure Neurosciences using the licensed patents. Hadasit will receive $250,000 upon the enrollment of patients in the first Phase I clinical trial, $250,000 upon the submission of Phase II clinical trial data to a regulatory agency as part of the approval process, and $1 million upon the enrollment of the first patient in the first Phase III clinical trial.

BioTime acquired a license from the University of Utah to use certain patents in the production and sale of certain hydrogel products. Under the License Agreement, BioTime will pay a 3% royalty on sales of products and services performed that utilize the licensed patents. Commencing in 2013, BioTime will be obligated to pay minimum royalties to the extent that actual royalties on products sales and services utilizing the patents are less than the minimum royalty amount. The minimum royalty amounts are $15,000 in 2013, $22,500 in 2014, and $30,000 each year thereafter during the term of the License Agreement. BioTime shall also pay the University of Utah 30% of any sublicense fees or royalties received under any sublicense of the licensed patents.

BioTime will pay the University of Utah $5,000 upon the issuance of each of the first five licensed patents issued in the U.S., subject to reduction to $2,500 for any patent that the University has licensed to two or more other licensees for different uses. BioTime will also pay a $225,000 milestone fee within six months after the first sale of a “tissue engineered product” that utilizes a licensed patent. A tissue engineered product is defined as living human tissues or cells on a polymer platform, created at a place other than the point-of-care facility, for transplantation into a human patient.

On August 23, 2011, BioTime entered into a License Agreement with Cornell University for the worldwide development and commercialization of technology for the differentiation of human embryonic stem cells into vascular endothelial cells.

Cornell will be entitled to receive a nominal initial license fee and nominal annual license maintenance fees. The obligation to pay annual license maintenance fees will end when the first human therapeutic products developed under the license is sold. BioTime will pay Cornell a milestone payment upon the achievement of a research product sale milestone amount, and will make milestone payments upon the attainment of certain FDA approval milestones for therapeutic products developed under the license, including (i) the first Phase II clinical trial dosing of a human therapeutic product, (ii) the first Phase III clinical trial dosing of a human therapeutic product; (iii) FDA approval of the first human therapeutic product for age-related vascular disease; and (iv) FDA approval of the first human therapeutic product for cancer.

BioTime will pay Cornell royalties on the sale of products and services using the license, and will share with Cornell a portion of any cash payments, other than royalties, that BioTime receives for the grant of sublicenses to non-affiliates. The potential royalty percentage rates to be paid to Cornell will be in the low to mid-single digit range depending on the product. BioTime will also reimburse Cornell for costs related to the patent applications and any patents that may issue that are covered by the license.

In conjunction with the License Agreement, BioTime also entered into a Sponsored Research Agreement under which scientists at Weill Cornell Medical College will engage in certain research for BioTime over a three year period beginning August 2011.

In December, 2011, BioTime entered into two agreements with USCN Life Science, Inc. (USCN), a Chinese company. One agreement is a License Option Agreement that grants BioTime the right, but not the obligation, to license from USCN certain technology and any related patents that may issue, and certain hybridoma cell lines for the purpose of deriving new products and technologies for use in diagnostic procedures and in therapeutics for the treatment of disease, as well as for products intended for research use only. The other Agreement BioTime entered into with USCN is an assay kit Supply Agreement under which BioTime will purchase a wide array of assay kits designed for enzyme-linked immunosorbent assay (ELISA) and chemiluminescent immuno assay (CLIA) directed to the stem cell research community and for research use only.

In January 2012, BioTime entered into a License Agreement and a Sponsored Research Agreement with The Wistar Institute in Philadelphia, PA through which it obtained an exclusive license to use technology related to a gene called *SP100*. The Wistar Institute will be entitled to receive an initial license fee, annual license maintenance fees, royalties based on the sale of any products BioTime or its subsidiaries may develop and sell using the licensed technology, sublicense fees if it sublicenses the technology to third parties, and a milestone payment upon the attainment of the initial approval of the FDA or other foreign regulatory agency for the marketing of the first product that utilizes the licensed technology. BioTime also agreed to fund research at The Wistar Institute to advance the technology, and we will receive certain rights to negotiate additional licenses for any technologies invented as a result of the research.

During May 2012, LifeMap acquired exclusive, world-wide rights to market the searchable, integrated, databases *GeneCards*,® *PanDaTox,* and *MalaCards* under licenses from Yeda Research and Development Company Ltd ("Yeda"), the Technology Transfer Company of the Weizmann Institute of Science in Israel. LifeMap will pay Yeda a portion of the gross revenues received from subscriptions to use the licensed databases and from advertising on the databases, which will be allocated between Yeda as royalties and the Weismann Institute of Sciences as payments for research and development services.

Cell Cure Neurosciences has received research and development grants from the OCS. Under the terms of those grants, Cell Cure Neurosciences will pay royalties to the OCS on revenues received from products developed with grant funds, until the total royalties paid total the amount of the grants plus interest at a LIBOR-based interest rate. The applicable royalty rate is 3.5%.

**7. Equity**

*Warrants*

BioTime has issued warrants to purchase its common shares as payments for services and in connection to certain business acquisitions. At September 30, 2012, 556,613 warrants to purchase common shares with an exercise price of $10.00 and a weighted average remaining contractual life of 1.57 years were outstanding.

*Preferred Shares*

BioTime is authorized to issue 1,000,000 shares of preferred stock. The preferred shares may be issued in one or more series as the board of directors may by resolution determine. The board of directors is authorized to fix the number of shares of any series of preferred shares and to determine or alter the rights, references, privileges, and restrictions granted to or imposed on the preferred shares as a class, or upon any wholly unissued series of any preferred shares. The board of directors may, by resolution, increase or decrease (but not below the number of shares of such series then outstanding) the number of shares of any series of preferred shares subsequent to the issue of shares of that series.

As of September 30, 2012, BioTime has no issued and outstanding preferred shares.

*Common Shares*

BioTime is authorized to issue 75,000,000 common shares with no par value. As of September 30, 2012, BioTime had 50,868,932 issued and 49,162,758 outstanding common shares. The difference of 1,706,174 is attributed to treasury shares held by BioTime subsidiaries which are accounted for as treasury stock on the consolidated balance sheet.

During the three and nine months ended September 30, 2012, there were 78,541 and 98,541 options exercised at a weighted average exercise price of $3.46 and $2.91, respectively.

During the nine months ended September 30, 2012 and 2011, BioTime recognized stock-based compensation expenses of $1,441,135 and $1,255,911, respectively, due to stock options granted to employees and directors. During the nine months ended September 30, 2012 and 2011, BioTime granted 280,000 and 301,593 options, respectively, under its 2002 Stock Option Plan. During the nine months ended September 30, 2012 and 2011, 98,229 and 11,876 options were forfeited, respectively.

On August 24, 2012, we entered into a Controlled Equity Offering SM sales agreement with Cantor Fitzgerald & Co. ("Cantor"), pursuant to which we may offer and sell up to $25 million of our common shares, from time to time through Cantor acting as our sales agent. The offer and sale of our shares through Cantor has been registered pursuant to registration statement filed under the Securities Act of 1933, as amended. The offering pursuant to the sales agreement will terminate upon the sale of all shares subject to the sales agreement or the earlier termination of the sales agreement as permitted by its terms. There is no assurance that we will be able to sell any common shares through the offering at prices acceptable to us.

Under the sales agreement, Cantor may sell shares of our common stock by any method permitted by law deemed to be an “at-the-market” offering as defined in Rule 415 of the SEC Securities Act of 1933, as amended, including, but not limited to, sales made directly on NYSE MKT, on any other existing trading market for our common stock or to or through a market maker. Cantor may also sell our shares under the sales agreement by any other method permitted by law, including in privately negotiated transactions. Cantor has agreed in the sales agreement to use its commercially reasonable efforts to sell shares in accordance with our instructions (including any price, time or size limit or other customary parameters or conditions we may impose).

**8. Merger with XenneX, Inc.**

On May 18, 2012, BioTime completed the acquisition of XenneX, Inc. (“XenneX”) through a merger of XenneX into LifeMap. Through the merger, XenneX stockholders received, in the aggregate, 1,362,589 shares of LifeMap common stock, which represented approximately 13.7% of the LifeMap common stock outstanding upon the closing of the transaction. XenneX shareholders also received approximately 448,429 BioTime common shares as part of the transaction. Through the merger, LifeMap acquired all of XenneX's assets, including cash, accounts receivables, prepaid assets, licenses, and assumed XenneX’s obligations, which at May 18, 2012 totaled approximately $572,826 and primarily consisted of trade payables, deferred subscription revenues, and distributions due to former XenneX shareholders.

The merger is being accounted for under the acquisition method of accounting. In accordance with ASC 805, the total purchase consideration is allocated to the net tangible and identifiable intangible assets acquired and liabilities assumed based on their estimated fair values as of May 18, 2012. BioTime amortizes intangibles over their useful lives, which BioTime estimates to be 10 years. In accordance with ASC 805, BioTime does not amortize goodwill. The purchase price was allocated using the information currently available, and may be adjusted after obtaining more information regarding, among other things, asset valuations, liabilities assumed, and revisions of preliminary estimates.

The total purchase price of $4,265,205 is being allocated as indicated:

| | |
|---|---|
| Components of the purchase price: | |
| BioTime common shares | $ 1,802,684 |
| LifeMap common shares | 2,462,521 |
| Total purchase price | $ 4,265,205 |
| | |
| Preliminary allocation of purchase price: | |
| Assets acquired and liabilities assumed: | |
| Cash | $ 292,387 |
| Other current assets | 311,118 |
| Intangible assets | 4,234,526 |
| Current liabilities | (294,572) |
| Cash distributable to sellers | (278,254) |
| Net assets acquired | $ 4,265,205 |

The fair value of the BioTime shares issued was $4.02, the closing price as reported on the NYSE Amex on May 18, 2012, the date the merger was finalized. The fair value of the LifeMap shares issued was $1.75 as determined by negotiation between BioTime, LifeMap and XenneX and its stockholders and is consistent with an internal valuation analysis completed by BioTime.

**9. Share Exchange and Contribution Agreement**

On July 24, 2012, LifeMap entered into a Share Exchange and Contribution Agreement (the “LifeMap Agreement”) with Alfred D. Kingsley and a company that he controls, Greenway Partners, L.P., pursuant to which Mr. Kingsley and Greenway agreed to contribute to LifeMap, in the aggregate, BioTime common shares having an aggregate value of not less than $2,000,000 and not more than $3,000,000, determined as provided in the LifeMap Agreement, in exchange for shares of LifeMap common stock at an initial price of $1.75 per LifeMap share.

Under the LifeMap Agreement, Mr. Kingsley and Greenway contributed 420,000 BioTime shares to LifeMap and received in exchange 1,143,864 shares of LifeMap common stock. The number of shares of LifeMap common stock issued in exchange for the BioTime shares was determined by multiplying the number of BioTime shares contributed by $4.7661, the highest weighted average closing price per share on the NYSE MKT for any ten trading days during the period from July 1, 2012 through July 31, 2012, and dividing that amount by $1.75, which was the Exchange Price per share of LifeMap common stock. The Exchange Price per share of LifeMap common stock may be reduced, and additional shares of LifeMap common stock may be issued in exchange for the BioTime shares received by LifeMap, if LifeMap sells shares of its common stock or other securities exercisable or exchangeable for, or convertible into, its common stock for a price per share of common stock lower than $1.75, other than pursuant to options granted under LifeMap's stock option plan, on or before December 31, 2012. As a result of this investment, our ownership dropped from 86.3% to $77.1% as of July 30, 2012. As of September 30, 2012, the 420,000 BioTime shares held by LifeMap are presented as treasury stock at a cost of $2,001,762.

In accordance with the License and Research Assignment Agreement dated May 14, 2012 between Yeda Research and Development Company, Ltd ("Yeda") and BioTime in connection with the merger of XenneX, Inc. and LifeMap in May 2012, if additional LifeMap shares up to $3,000,000 are issued, LifeMap will issue shares to Yeda in order to maintain their 3.75% ownership in the issued and outstanding LifeMap shares on a fully diluted basis. As a result of the $2,001,762 investment in LifeMap aforementioned, LifeMap issued Yeda 44,566 LifeMap common stock with an estimated fair value of $78,000.

Mr. Kingsley and Greenway have agreed to contribute additional BioTime Shares to LifeMap so that the total number of BioTime shares so contributed will have a total value of not more than $3,000,000. The additional BioTime Shares so contributed will be valued as of November 30, 2012 at the highest weighted average closing price per share on the NYSE MKT for any ten trading days during the period from August 1, 2012 through November 30, 2012.

Our ownership interest in LifeMap will be further reduced from 77.1% to approximately 73.2% as a result of the exchange of BioTime shares for LifeMap common stock by Mr. Kingsley and Greenway, assuming that LifeMap does not issue any additional shares of its common stock.

We have registered the BioTime Shares received by LifeMap for resale under the Securities Act of 1933, as amended.

**10. Unaudited Pro Forma Interim Financial Information – Nine Months Ended September 30, 2012 and 2011**

The following unaudited pro forma information gives effect to the acquisition of Cell Targeting Inc., Glycosan BioSystems, Inc. (which occurred in 2011), and XenneX as if the acquisition took place on January 1, 2011. The *pro forma* information does not necessarily reflect the results of operations that would have occurred had the entities been a single company during the periods presented.

| | Nine Months Ended September 30, | |
|---|---|---|
| | 2012 (Unaudited) | 2011 (Unaudited) |
| Revenues, net | $ 2,984,436 | $ 3,285,531 |
| Net loss available to common shareholders | $ (15,288,233) | $ (11,031,976) |
| Net loss per common share – basic and diluted | $ (0.31) | $ (0.23) |

**11. Subsequent Events**

*Subsequent events* – These condensed consolidated financial statements were approved by management and the Board of Directors, and were issued on November 5, 2012. Subsequent events have been evaluated through that date.

On November 1, 2012, BioTime entered into a Share Purchase Agreement with our subsidiary Cell Cure Neurosciences Ltd. ("Cell Cure Neurosciences"), an Israeli company, pursuant to which we agreed to purchase 87,456 Cell Cure Neurosciences ordinary shares in exchange for 906,735 of our common shares. As a result of the share purchase, we will own, directly and through our wholly-owned subsidiary ES Cell International Pte. Ltd., approximately 62.6% of the outstanding ordinary shares of Cell Cure Neurosciences.

The number of common shares we will issue to acquire the Cell Cure Neurosciences shares was based upon an average market price of $3.86 per BioTime common share determined on the basis of the ten actual trading days prior to November 1, 2012 (it is noted that the NYSE MKT was closed on October 29th and 30th due to adverse weather conditions). Under the Share Purchase Agreement, we may be required to issue additional common shares to Cell Cure Neurosciences, or Cell Cure Neurosciences may be required to issue additional Cell Cure Neurosciences ordinary shares to us, depending upon whether the market value of BioTime common shares increases or decreases by more than 15%, based upon the average closing price for the ten trading days commencing on May 1, 2013. If the market value of BioTime common shares declines by more than 15% then we will issue an additional number of shares required to make the value of the total number of common shares we issued equal to $3.5 million, less the initial $3.86 market price multiplied by any BioTime common shares sold by Cell Cure Neurosciences prior to that date, and subject to a maximum 33% increase in the number of BioTime shares issued. Conversely, if the value of BioTime shares increases by more than 15% as of such date, Cell Cure Neurosciences will be required to issue to us a number of additional Cell Cure Neurosciences ordinary shares sufficient to bring the value of the Cell Cure shares Neurosciences issued to us under the Share Purchase Agreement to the value of the BioTime common shares we issued, also determined on the basis of a ten day trading period commencing on May 1, 2013, but subject to a 33% maximum increase in the number of Cell Cure Neurosciences shares issued.

## Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

*The following Management's Discussion and Analysis of Financial Condition and Results of Operations is intended to provide information necessary to understand our condensed consolidated financial statements for the three and nine months ended September 30, 2012 and 2011, and highlight certain other information which, in the opinion of management, will enhance a reader's understanding of our financial condition, changes in financial condition and results of operations. In particular, the discussion is intended to provide an analysis of significant trends and material changes in our financial position and the operating results of our business during the quarter ended September 30, 2012 as compared to the quarter ended September 30, 2011. This discussion should be read in conjunction with our Condensed Consolidated Financial Statements for the three and nine months ended September 30, 2012 and 2011 and related notes included elsewhere in this Quarterly Report on Form 10-Q. These historical financial statements may not be indicative of our future performance. This Management's Discussion and Analysis of Financial Condition and Results of Operations contains a number of forward-looking statements, all of which are based on our current expectations and could be affected by the uncertainties and risks described throughout this filing, particularly in "Item 1A. Risk Factors."*

### Overview

We are a biotechnology company focused on the emerging field of regenerative medicine. Our core technologies center on stem cells capable of becoming all of the cell types in the human body, a property called *pluripotency*. Products made from these “pluripotent” stem cells are being developed by us and our subsidiaries, each of which concentrates on different medical specialties, including: neuroscience, oncology, orthopedics, and blood and vascular diseases. Our commercial strategy is heavily focused on near-term commercial opportunities including our current line of research products such as the online database products marketed by our subsidiary LifeMap Sciences, Inc., *ACTCellerate*™ cell lines and associated *ESpan*™ culture media, *HyStem*® hydrogels, human embryonic stem cell lines, and royalties from *Hextend*®. Potential near term therapeutic product opportunities include *Renevia*™ (formerly known as *HyStem*®*-Rx*) as a cell delivery device expected to launch in Europe in 2013, and the launch of *PanC-Dx*™ as a novel blood-based cancer screen, expected by 2014 in Europe. Our long-term strategic focus is to provide regenerative therapies for age-related degenerative diseases.

“Regenerative medicine” refers to an emerging field of therapeutic product development that may allow all human cell and tissue types to be manufactured on an industrial scale. This new technology is made possible by the isolation of human embryonic stem (“hES”) cells, and by the development of “induced pluripotent stem (“iPS”) cells” which are created from regular cells of the human body using technology that allows adult cells to be “reprogrammed” into cells with pluripotency like young hES-like cells. These pluripotent hES and iPS cells have the unique property of being able to branch out into each and every kind of cell in the human body, including the cell types that make up the brain, the blood, the heart, the lungs, the liver, and other tissues. Unlike adult-derived stem cells that have limited potential to become different cell types, pluripotent stem cells may have vast potential to supply an array of new regenerative therapeutic products, especially those targeting the large and growing markets associated with age-related degenerative disease. Unlike pharmaceuticals that require a molecular target, therapeutic strategies in regenerative medicine are generally aimed at regenerating affected cells and tissues, and therefore may have broader applicability. Regenerative medicine represents a revolution in the field of biotechnology with the promise of providing therapies for diseases previously considered incurable.

Our commercial efforts in regenerative medicine include the development and sale of products designed for research applications in the near term as well as products designed for diagnostic and therapeutic applications in the medium and long term. We offer advanced human stem cell products and technology that can be used by researchers at universities and at companies in the bioscience and biopharmaceutical industries.

Our subsidiary LifeMap Sciences, Inc. ("LifeMap") markets *GeneCards®*, the leading human gene database, and is developing an integrated database suite to complement *GeneCards®* that will also include the *LifeMap™* database of embryonic development, stem cell research and regenerative medicine, and *MalaCards*, the human disease database. LifeMap will also market *PanDaTox*, a database that can be used to identify genes and intergenic regions that are unclonable in E. coli, to aid in the discovery of new antibiotics and biotechnologically beneficial functional genes.

We have developed research and clinical grade hES cell lines that we market for both basic research and therapeutic product development. Our subsidiary, ES Cell International Pte. Ltd. ("ESI"), has developed six hES cell lines that are among the best characterized and documented cell lines available today. Developed using current Good Manufacturing Practices ("cGMP") that facilitate transition into the clinic, these hES cell lines are extensively characterized and five of the six cell lines currently have documented and publicly-available genomic sequences. The ESI hES cell lines are now included in the Stem Cell Registry of the National Institutes of Health ("NIH"), making them eligible for use in federally funded research, and all are available for purchase through *www.biotimeinc.com*. We also market human embryonic progenitor cell ("hEPCs") developed using *ACTCellerate™* technology. These hEPCs are purified lineages of cells that are intermediate in the developmental process between embryonic stem cells and fully differentiated cells. We expect that hEPCs will simplify the scalable manufacture of highly purified and identified cell types and will possess the ability to become a wide array of cell types with potential applications in research, drug discovery, and human regenerative stem cell therapies. The *ACTCellerate™* cell lines are also available for purchase through *www.biotimeinc.com*.

Research products can be marketed without regulatory or other governmental approval, and thus offer relatively near-term business opportunities, especially when compared to therapeutic products. The medical devices that we and our subsidiaries are developing will require regulatory approval for marketing, but the clinical trial and approval process for medical devices is often faster and less expensive than the process for the approval of new drugs and biological therapeutics. Our current and near-term product opportunities, combined with expected long-term revenues from the potentially very large revenue cell-based therapeutic products under development at our subsidiaries, provide us with a balanced commercial strategy. The value of this balance is apparent in the commercial field of regenerative medicine as competitors whose sole focus is on long-term therapeutic products have found it challenging to raise the requisite capital to fund clinical development.

Our *HyStem®* hydrogel product line is one of the components in our near-term revenue strategy. *HyStem®* is a patented biomaterial that mimics the human extracellular matrix, which is the network of molecules surrounding cells in organs and tissues that is essential to cellular function. Many tissue engineering and regenerative cell-based therapies will require the delivery of therapeutic cells in a matrix or scaffold to sustain cell survival after transplantation and to maintain proper cellular function. *HyStem®* is a unique hydrogel that has been shown to support cellular attachment and proliferation *in vivo* and is currently being used by researchers at a number of leading medical schools in pre-clinical studies of stem cell therapies to facilitate wound healing, for the treatment of ischemic stroke, brain cancer, vocal fold scarring, and for myocardial infarct repair. Our *HyStem®* hydrogels may have other applications when combined with the diverse and scalable cell types our scientists have isolated from hES cells.

*Renevia™* (formerly known as *HyStem®-Rx*) is a clinical grade formulation of *HyStem®-C*, a biocompatible, implantable hyaluronan and collagen-based matrix for cell delivery in human clinical applications. As an injectable product, *Renevia™* may address an immediate need in cosmetic and reconstructive surgeries and other procedures by improving the process of transplanting adipose derived cells, mesenchymal stem cells, or other adult stem cells. We will need to obtain approval by the U.S. Food and Drug Administration ("FDA") and comparable regulatory agencies in foreign countries in order to market *Renevia™* as a medical device. Our goal is to initiate clinical trials in the European Union by early 2013 for CE marking.

Our subsidiary, OncoCyte Corporation, is developing *PanC-Dx™*, a novel non-invasive blood-based cancer screening test designed to detect the presence of various human cancers, including cancers of the breast, lung, bladder, uterus, stomach, and colon, during routine check-ups. We intend to initially seek regulatory approval to market *PanC-Dx™* in Europe before seeking regulatory approvals required to market the product in the U.S. and other countries.

We have organized several subsidiaries to undertake our cell replacement therapeutic programs, diagnostic product programs, and our research product programs. We will partly or wholly fund these subsidiaries, recruit their management teams, assist them in acquiring technology, and provide general guidance for building the subsidiary companies. We may license patents and technology to the subsidiaries that we do not wholly own under agreements that will entitle us to receive royalty payments from the commercialization of products or technology developed by the subsidiaries.

The following table shows our subsidiaries, their respective principal fields of business, our percentage ownership, and the country where their principal business is located:

| **Subsidiary** | Field of Business | **BioTime Ownership** | **Country** |
|---|---|---|---|
| ES Cell International Pte. Ltd. | Stem cell products for research, including clinical grade cell lines produced under cGMP | 100% | Singapore |
| OncoCyte Corporation | Diagnosis and treatment of cancer | 75.3% | USA |
| OrthoCyte Corporation | Orthopedic diseases, including osteoarthritis | 100% | USA |
| Cell Cure Neurosciences Ltd. | Age-related macular degeneration<br><br>Multiple sclerosis<br><br>Parkinson's disease | 53.6% (1) | Israel |
| ReCyte Therapeutics, Inc.<br>(formerly Embryome Sciences, Inc.) | Blood and vascular diseases including coronary artery disease<br><br>Endothelial progenitor cells and iPS cell banking | 95.15% | USA |
| BioTime Asia, Limited | Ophthalmologic, skin, musculo-skeletal system, and hematologic diseases for Asian markets.<br><br>Stem cell products for research | 81% | Hong Kong |
| LifeMap Sciences, Inc. | Searchable online databases for research in the fields of biotechnology, pharmaceutical development, and life sciences | 77.1% (2) | USA |
| LifeMap Sciences, Ltd. | Development of the LifeMap database and therapeutics discovery activities | (3) | Israel |
| BioTime Acquisition Corporation | Explore opportunities to acquire assets and businesses in the field of stem cells and regenerative medicine | 96.7% | USA |

(1) Cell Cure Neurosciences has agreed to issue additional ordinary shares to BioTime in exchange for BioTime common shares which will increase BioTime's ownership, directly and through ESI, to approximately 62.6%. See Note 11 to the Condensed Consolidated Interim Financial Statements.
(2) LifeMap Sciences, Inc. has agreed to issue additional shares of its common stock to certain investors which will reduce BioTime's ownership 73.2%. See Note 9 to the Condensed Consolidated Interim Financial Statements.
(3) LifeMap Sciences, Ltd. is a wholly-owned subsidiary of LifeMap Sciences, Inc.

Initially, we developed blood plasma volume expanders and related technology for use in surgery, emergency trauma treatment, and other applications. Our lead blood plasma expander product, *Hextend*®, is a physiologically balanced intravenous solution used in the treatment of hypovolemia, a condition caused by low blood volume, often from blood loss during surgery or injury. *Hextend*® maintains circulatory system fluid volume and blood pressure, and keeps vital organs perfused during surgery and trauma care. *Hextend*® is manufactured and distributed in the U.S. by Hospira, Inc., and in South Korea by CJ CheilJedang Corporation ("CJ"), under license from us.

**Additional Information**

*HyStem*®, *Hextend*®, and *PentaLyte*®, are registered trademarks of BioTime, Inc., and *Renevia*™, *ESpan*™, and *ESpy*® are trademarks of BioTime, Inc. *ReCyte*™ is a trademark of ReCyte Therapeutics, Inc. *ACTCellerate*™ is a trademark licensed to us by Advanced Cell Technology, Inc. *PanC-Dx*™ is a trademark of OncoCyte Corporation.

We were incorporated in 1990 in the state of California. Our principal executive offices are located at 1301 Harbor Bay Parkway, Alameda, California 94502. Our telephone number is (510) 521-3390.

**Stem Cells, Databases, and Products for Regenerative Medicine Research**

We now offer 96 *ACTCellerate*™ hEPC lines, and six hES cell lines developed under cGMP by our subsidiary ESI for sale, and hES cell lines carrying inherited genetic diseases. We offer our research products for sale through our website *www.biotimeinc.com*, and we anticipate adding additional cell lines and related *ESpan*™ growth media and differentiation kits over time. The hES cell lines developed by ESI are included in the NIH Stem Cell Registry, making them eligible for use in federally funded research, and five of the six cell lines currently have documented and publicly-available genomic sequences. We plan to make LifeMap our principal marketing subsidiary for these research products. LifeMap currently markets *GeneCards*®, the leading human gene database, and is developing an integrated database suite to complement *GeneCards*® that will also include the *LifeMap*™ database of embryonic development, stem cell research and regenerative medicine, and *MalaCards*, the human disease database. LifeMap also plans to market *PanDaTox*, a database that can be used to identify genes and intergenic regions that are unclonable in E. coli, to aid in the discovery of new antibiotics and biotechnologically beneficial functional genes. LifeMap will utilize its databases as part of its online marketing strategy for our research products to reach life sciences researchers at biotech and pharmaceutical companies and at academic institutions and research hospitals worldwide. Millipore Corporation also is an authorized distributor of certain *ACTCellerate*™ hEPC lines and related *ESpan*™ growth media.

**Plasma Volume Expander Products**

Royalties and licensing fees related to our plasma volume expander products, primarily *Hextend*®, comprise a significant part of our operating revenues. *Hextend*® has become the standard plasma volume expander at a number of prominent teaching hospitals and leading medical centers and is part of the Tactical Combat Casualty Care protocol of the U.S. Armed Forces.

Under our license agreements, Hospira and CJ will report sales of *Hextend*® and pay us the royalties and license fees due on account of such sales after the end of each calendar quarter. We recognize revenues in the quarter in which the sales report is received, rather than the quarter in which the sales took place.

Based on sales of *Hextend*® that occurred during the third quarter of 2012, we expect to receive royalties of $109,670 from Hospira and have received $24,209 from CJ during the fourth quarter of 2012. Total royalties of $133,879 for the quarter decreased by $51,825 or 28% from royalties of $185,704 received during the same period last year. These royalties will be reflected in our financial statements in the fourth quarter of 2012.

**Research and Development Programs in Regenerative Medicine and Stem Cell Research**

We entered the fields of stem cell research and regenerative medicine during October 2007. From that time through 2009, our activities in those fields included acquiring rights to market stem cell lines, pursuing patents, planning future products and research programs, applying for research grants, identifying the characteristics of various acquired progenitor and stem cell lines, negotiating a product distribution agreement, organizing new subsidiaries to address particular fields of product development, and planning and launching our first product development programs.

The following table summarizes the most significant achievements in our primary research and development programs in stem cell research and regenerative medicine.

| Company | Program | Status |
|---|---|---|
| BioTime(1) and ESI | *ACTCellerate*™ cell lines/growth media/reagent kits for stem cell research<br><br>GMP hES cell lines | Nearly 300 products for stem cell research are now being offered, including *ACTCellerate*™ hEPCs, *ESpan*™ cell line optimal growth media, and reagent cell differentiation kits. We plan to add additional cell lines, growth media, and differentiation kits with characterization of new hEPCs<br><br>ESI has developed and offers for sale GMP hES cell lines for research purposes. Six ESI hES cell lines have been approved by the NIH for use in federally funded research. |
| BioTime(1) | CIRM-funded research project addressing the need for industrial-scale production of purified therapeutic cells (2) | Conducted long-term stability studies of hEPCs using commercial-type culture processes to demonstrate phenotypic stability and genotypic stability during culture expansion.<br><br>Attempting to define a molecular signature of cell surface markers that would be unique to a given hEPC cell line to permit development of reagents to those markers that can be used to purify the target hEPCs intended for therapy.<br><br>Mapping cell surface protein expression directly on hEPCs using large collections of commercially available antibodies and have begun testing those antibodies as affinity reagents for purifying target hEPCs.<br><br>Identifying peptide reagents that show specificity for cell surface targets on hEPCs and could thus be used directly as affinity reagents. |
| BioTime(1) and OrthoCyte (4) | Biocompatible hydrogels that mimic the human extracellular matrix | Demonstrated that those cell lines can be combined with BioTime's *Renevia*™ matrices to formulate a combination product for treating cartilage deficits.<br><br>Developed *Extralink*®, *PEGgel*™, and *HyStem*® hydrogel products for basic laboratory research use<br><br>Conducted pre-clinical development of *Renevia*™ as an implantable cell delivery device<br><br>Conducted toxicology studies of *Renevia*™ in the brains of laboratory mice. Results show no difference in reactive astrocytes, macrophages/microglia, neuronal number or blood vessel structure between saline controls and *Renevia*™. There was no evidence of granulomata or foreign body reaction around either saline or *Renevia*™ injection sites.<br><br>Two U.S. patents issued on hydrogels |
| OncoCyte (3) | Vascular endothelial cells that can be engineered to deliver a toxic payload to the developing blood vessels of a tumor<br><br>Genetic markers for cancer diagnosis | Developed a derivation protocol that can reproducibly produce populations of endothelial cells with levels of purity and efficiency above those reported in the published literature.<br><br>Established broad range of support assays to monitor and measure vascular endothelial cell differentiation process.<br><br>Initiated in vivo experiments monitoring incorporation of endothelial cells into developing mouse vasculature and into the developing vasculature of human tumor xenografts.<br><br>Completed initial development of a toxic payload transgene system which can be induced at the site of tumors to destroy cancer cells.<br>Demonstrated that many of the same genes associated with the normal growth of embryonic stem cells are abnormally reactivated by cancer cells. Based on this finding, and utilizing its proprietary algorithms, OncoCyte has discovered and filed patent applications on over 100 novel cancer-associated genes.<br><br>Initiated development of *PanC-DX*™, a novel blood-based diagnostic screening test designed to detect the presence of multiple cancer types with superior accuracy |

| Company | Program | Status |
|---|---|---|
| OrthoCyte (4) | Cartilage repair using embryonic progenitor cells | Identified several cell lines that displayed molecular markers consistent with the production of definitive human cartilage.<br><br>Confirmed chondrogenic potential in joint defects in rat models of osteoarthritis. |
| ReCyte Therapeutics | Therapeutic products for cardiovascular and blood diseases utilizing its proprietary *ReCyte*™ iPS technology. | Evaluating effects of telomere length on growth potential of iPS cells and iPS-derived progenitor lines.<br><br>Through BioTime, formed a collaboration with researchers at Cornell Weill Medical College to derive clinical vascular endothelium for the treatment of age-related vascular disease.<br><br>Demonstrated the feasibility of producing highly purified product using *ACTCellerate*™ technology. |
| BioTime | *Hextend*® – Blood plasma volume expanders | *Hextend*® is currently marketed to hospitals and physicians in the USA and Korea. Activities include complying with all regulatory requirements and promotional activities. |
| BioTime Asia | Distributing *ACTCellerate*™ hEPC lines growth media and reagents | Initial sales of cell lines, growth media, and differentiation kits, to customers in Asia. |
| Cell Cure Neurosciences (5) | *OpRegen*™ and *OpRegen-Plus*™ for treatment of age related macular degeneration | Conducted animal model studies to establish proof of concept.<br><br>Developed directed differentiation as efficient method for short culture period to produce a supply of retinal pigment epithelial cells.<br><br>Granted Teva Pharmaceutical Industries, Ltd. an option to complete clinical development of, and to manufacture, distribute, and sell, *OpRegen*™ and *OpRegen-Plus*™. |
| LifeMap (6) | Online, searchable databases | Marketing searchable, integrated, database products, including:<br>· *GeneCards*®, a database of human genes that provides concise genomic, transcriptomic, genetic, proteomic, functional and disease related information, on all known and predicted human genes;<br>· *MalaCards*, a database of human diseases that is based on the *GeneCards*® platform and contains computerized “cards” classifying information relating to a wide array of human diseases; and<br>· *PanDaTox*, an innovative, recently developed, searchable database that can aid in the discovery of new antibiotics and biotechnologically beneficial products.<br><br>Plans to also market<br>· *LifeMap Discovery*™, a database of embryonic development, stem cell research and regenerative medicine; and<br>· BioTime research products. |

(1) During late December 2010, our subsidiary, Embryome Sciences, Inc., changed its name to ReCyte Therapeutics, Inc. in conjunction with a change of its business focus to the research and development of therapeutic products to treat blood and vascular diseases and disorders. Embryome Sciences’ research products business and *ACTCellerate*™ hEPC research and development projects, including related patent and technology rights, are being assigned to BioTime or other BioTime subsidiaries. The hydrogel products were acquired in 2011 through the merger of Glycosan into OrthoCyte, but were assigned to BioTime in January 2012.

(2) Our CIRM grant that funded this program expired in August 2012.

(3) OncoCyte was organized during October 2009 and received $4,000,000 of initial capital from private investors.

(4) OrthoCyte was organized during June 2010. The hydrogel products were acquired in 2011 through the merger of Glycosan into OrthoCyte, but were assigned to BioTime in January 2012.

(5) We acquired our interest in Cell Cure Neurosciences during 2010. Cell Cure Neurosciences received $7,100,000 of additional equity financing during October 2010 from us and two of its other principal shareholders.

(6) LifeMap was organized during April 2011 and acquired XenneX, Inc, during May 2012. Through the acquisition of XenneX, LifeMap acquired licenses to market the *GeneCards*® and *PanDaTox* databases. During May 2012, LifeMap also licensed the right to market the *MalaCards* database.

The inherent uncertainties of developing new products for stem cell research and for medical use make it impossible to predict the amount of time and expense that will be required to complete the development and commence commercialization of new products. There is no assurance that we or any of our subsidiaries will be successful in developing new technologies or stem cell products, or that any technology or products that may be developed will be proven safe and effective for treating diseases in humans, or will be successfully commercialized. Most of our potential therapeutic products are at a very early stage of preclinical development. Before any clinical trials can be conducted by us or any of our subsidiaries, the company seeking to conduct the trials would have to compile sufficient laboratory test data substantiating the characteristics and purity of the stem cells, conduct animal studies, and then obtain all necessary regulatory and clinical trial site approvals, after which a team of physicians and statisticians would need to be assembled to perform the trials. Clinical trials will be costly to undertake and will take years to complete. See our discussion of the risks inherent in our business and the impact of government regulation on our business in the "Risk Factors" section and "Business" section of this report.

We believe each of our operating subsidiaries has sufficient capital to carry out its current research and development plan during 2012. We may provide additional financing for our subsidiaries, or obtain financing from third parties, based on the following: our evaluation of progress made in their respective research and development programs, any changes to or the expansion of the scope and focus of their research, and our projection of future costs. See "Liquidity and Capital Resources" for a discussion of our available capital resources, our potential need for future financing, and possible sources of capital.

**Research and Development Expenses**

The following table shows the approximate percentages of our total research and development expenses of $13,323,410 and $9,756,443 allocated to our primary research and development projects during the nine months ended September 30, 2012 and 2011, respectively.

| | | Amount | | Percent | |
|---|---|---|---|---|---|
| **Company** | **Program** | **2012** | **2011** | **2012** | **2011** |
| BioTime, ReCyte Therapeutics, and ESI | *ACTCellerate* hEPCs, GMP hES cell lines, and related research products | $ 2,057,859 | $ 2,458,649 | 15.4% | 25.2% |
| BioTime | CIRM sponsored ACTCellerate technology | $ 794,632 | $ 1,363,363 | 6.0% | 14.0% |
| BioTime and OrthoCyte(1) | Hydrogel products and *HyStem*® research | $ 2,560,964 | $ 400,030 | 19.2% | 4.1% |
| OncoCyte | Cancer therapy and diagnostics | $ 2,252,071 | $ 1,663,869 | 16.9% | 17.0% |
| OrthoCyte | Orthopedic therapy | $ 679,166 | $ 650,393 | 5.1% | 6.7% |
| ReCyte Therapeutics | IPS and vascular therapy | $ 971,572 | $ 265,350 | 7.3% | 2.7% |
| BioTime | *HyStem*® | $ 266,652 | $ 247,571 | 2.0% | 2.5% |
| BioTime Asia | Stem cell products for research | $ 109,807 | $ 145,149 | 0.8% | 1.5% |
| Cell Cure Neurosciences | *OpRegen*™, *OpRegen-Plus*™, and neurological disease therapies | $ 2,409,095 | $ 2,283,475 | 18.1 % | 23.4% |
| LifeMap | Database development | $ 1,221,592 | $ 278,594 | 9.2% | 2.9% |

(1) OrthoCyte transferred its *HyStem*® product line and related research to BioTime during January 2012.

**Critical Accounting Policies**

*Revenue recognition* – We comply with SEC Staff Accounting Bulletin guidance on revenue recognition. Royalty revenues consist of product royalty payments. License fee revenues consist of fees under license agreements and are recognized when earned and reasonably estimable and also include subscription and advertising revenue from our online databases based upon respective subscription or advertising periods. We recognize revenue in the quarter in which the royalty reports are received rather than the quarter in which the sales took place. When we are entitled to receive up-front nonrefundable licensing or similar fees pursuant to agreements under which we have no continuing performance obligations, the fees are recognized as revenues when collection is reasonably assured. When we receive up-front nonrefundable licensing or similar fees pursuant to agreements under which we do have continuing performance obligations, the fees are deferred and amortized ratably over the performance period. If the performance period cannot be reasonably estimated, we amortize nonrefundable fees over the life of the contract until such time that the performance period can be more reasonably estimated. Milestone payments, if any, related to scientific or technical achievements are recognized in income when the milestone is accomplished if (a) substantive effort was required to achieve the milestone, (b) the amount of the milestone payment appears reasonably commensurate with the effort expended, and (c) collection of the payment is reasonably assured. Grant income and the sale of research products are recognized as revenue when earned. Revenues from the sale of research products are primarily derived from the sale of hydrogels and stem cell products.

*Patent costs* – Costs associated with obtaining patents on products or technology developed are expensed as general and administrative expenses when incurred. This accounting is in compliance with guidance promulgated by the Financial Accounting Standards Board ("FASB") regarding goodwill and other intangible assets.

*Research and development* – We comply with FASB requirements governing accounting for research and development costs. Research and development costs are expensed when incurred, and consist principally of salaries, payroll taxes, consulting fees, research and laboratory fees, and license fees paid to acquire patents or licenses to use patents and other technology from third parties.

*Stock-based compensation* – We have adopted accounting standards governing share-based payments, which require the measurement and recognition of compensation expense for all share-based payment awards made to directors and employees, including employee stock options, based on estimated fair values. We utilize the Black-Scholes Merton option pricing model. Our determination of fair value of share-based payment awards on the date of grant using an option-pricing model is affected by our stock price as well as assumptions regarding a number of highly complex and subjective variables. These variables include, but are not limited to, expected stock price volatility over the term of the awards, and actual and projected employee stock option exercise behaviors. The expected term of options granted is derived from historical data on employee exercises and post-vesting employment termination behavior. The risk-free rate is based on the U.S. Treasury rates in effect during the corresponding period of grant. Although the fair value of employee stock options is determined in accordance with recent FASB guidance, changes in the subjective assumptions can materially affect the estimated value. In management's opinion, the existing valuation models may not provide an accurate measure of the fair value of employee stock options because the option-pricing model value may not be indicative of the fair value that would be established in a willing buyer/willing seller market transaction.

*Treasury stock* – We account for BioTime common shares issued to subsidiaries for future potential working capital needs as treasury stock on the consolidated balance sheet. We have the intent and ability to register any unregistered shares to support the marketability of the shares.

*Impairment of long-lived assets* – Our long-lived assets, including intangible assets, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be fully recoverable. If an impairment indicator is present, we evaluate recoverability by a comparison of the carrying amount of the assets to future undiscounted net cash flows expected to be generated by the assets. If the assets are impaired, the impairment recognized is measured by the amount by which the carrying amount exceeds the estimated fair value of the assets.

*Deferred license and consulting fees* – Deferred license and consulting fees consist of the value of warrants issued to third parties for services and to the minority shareholder in BioTime Asia for its participation in the organization of that company, and deferred license fees paid to acquire rights to use the proprietary technologies of third parties. The value of the warrants is being amortized over the lives of the warrants, and deferred license fees over the estimated useful lives of the licensed technologies or licensed research products. The estimation of the useful life any technology or product involves a significant degree of inherent uncertainty, since the outcome of research and development or the commercial life of a new product cannot be known with certainty at the time that the right to use the technology or product is acquired. We will review its amortization schedules for impairments that might occur earlier than the original expected useful lives. See also Note 6 to the Condensed Consolidated Interim Financial Statements.

*Principles of consolidation* – Our consolidated financial statements include the accounts of our wholly-owned subsidiaries, OrthoCyte and ESI, the accounts of ReCyte Therapeutics, a subsidiary of which we owned approximately 95.15% of the outstanding shares of common stock as of September 30, 2012; the accounts of OncoCyte, a subsidiary of which we owned approximately 75.3% of the outstanding shares of common stock as of September 30, 2012; the accounts of BioTime Asia, a subsidiary of which we owned approximately 81% of the outstanding shares as of September 30, 2012, the accounts of Cell Cure Neurosciences, a subsidiary of which we owned approximately 53.6% of the outstanding shares as of September 30, 2012, the accounts of LifeMap, a subsidiary of which we owned approximately 77.1% of the outstanding shares as of September 30, 2012, and the accounts of BAC, a subsidiary of which we owned 96.7% of the outstanding shares as of September 30, 2012. All material intercompany accounts and transactions have been eliminated in consolidation. The consolidated financial statements are presented in accordance with accounting principles generally accepted in the U.S. and with the accounting and reporting requirements of Regulation S-X of the SEC.

**Results of Operations**

*Revenues*

Under our license agreements with Hospira and CJ, our licensees report sales of *Hextend*® and pay us the royalties and license fees due on account of such sales within 90 days after the end of each calendar quarter. We recognize such revenues in the quarter in which the sales report is received, rather than the quarter in which the sales took place. For example, royalties on sales made during the second quarter of 2012 were not recognized until the third quarter of 2012. Royalty revenues recognized for the third quarter of 2012 were $104,619 from Hospira and $29,327 from CJ. Total royalties of $133,946 for the quarter decreased by $40,329 or 23% from royalties of $174,275 received from Hospira and CJ during the same period last year. Total royalties from Hospira and CJ of $407,415 for the nine month period ended September 30, 2012 decreased by $160,090 or 28% from royalties of $567,505 received from Hospira and CJ during the same period last year. Royalty revenues for the nine months ended September 31, 2012 also include $388 from another distributor. Royalty revenues for the three and nine months ended September 31, 2011 also include $1,752 from another distributor.

The decrease in royalties is attributable to a decrease in *Hextend*® sales in the U.S. and in the Republic of Korea. The decrease in royalties received from Hospira based on sales during the previous quarter is generally due to the decline in the price of hetastarch-based products in the market. The blood volume expander marketing is shrinking overall and hospitals have shifted their purchases to albumin products. Hospira has reported that they have seen a rapid decline in the price of hetastarch-based plasma expanders in the market which could continue to have a negative impact on revenues from the sale of *Hextend*®. Hospira has implemented further price reductions for *Hextend*® during 2012 in an attempt to maintain market share.

We recognized as revenue $36,468 and $39,801 of license fees from CJ and Summit during the three months ended September 30, 2012 and 2011, respectively. License fee revenues from CJ and Summit for the nine months ended September 30, 2012 and 2011 amounted to $109,405 and $141,930, respectively. The license fees were received from CJ during April 2003 and July 2004, and from Summit during December 2004 and April and October of 2005, but full recognition of the license fees has been deferred, and is being recognized over the life of the contracts, which has been estimated to last until approximately 2019 based on the current expected life of the governing patent covering our products in Korea and Japan. See Note 1 to the Condensed Consolidated Interim Financial Statements. License fee revenues for the three and nine months ended September 30, 2012 also include $39 and $227 earned through ESI and also include subscription and advertising revenues of $300,126 and $438,889, respectively from LifeMap's online database business. License fees for the three and nine months ended September 31, 2012 also include $1,000 from a new licensee. License fee revenues for the three and nine months ended September 30, 2011 also includes $15,099 and $59,659 earned through ESI.

We recognized revenue of $261,776 and $1,047,107 from our research grant from CIRM during the three and nine months ended September 30, 2012 and $392,666 and $1,177,996 during the same periods in 2011. The term of our CIRM grant expired during August 2012 and it is no longer a source of revenue for us. Grant revenues for the three months ended September 30, 2012 also include $3,239 from the NIH, and $7,692 received by LifeMap Sciences, Ltd, and $168,923 received by Cell Cure Neurosciences from the OCS. Grant revenues for the three months ended September 30, 2011 also include $22,409 and $331,351 from other grants received by OrthoCyte and Cell Cure Neurosciences, respectively. For the nine months ended September 30, 2012, grant revenues also include $38,535 from the NIH, and $15,587 received by LifeMap Sciences, Ltd., and $416,857 received by Cell Cure Neurosciences from the OCS. For the nine months ended September 30, 2011, grant revenues also include $50,390, $44,544 and $332,682 from other grants received by OrthoCyte, OncoCyte and Cell Cure Neurosciences, respectively.

*Operating Expenses*

Research and development expenses increased to $4,545,470 for the three months ended September 30, 2012 from $3,488,121 for the three months ended September 30, 2011. Research and development expenses for the three months ended September 30, 2012 and 2011, also included $1,141,110 and $1,146,055, respectively, of research and development expenses incurred by ESI and Cell Cure Neurosciences, of which $385,454 and $419,869, respectively, is derived from the amortization of patent technology related to our acquisition of those subsidiaries in May and October 2010, respectively. Aside from these expenses, the increase in research and development expenses during 2012 is primarily attributable to an increase of $447,709 in employee compensation and related costs allocated to research and development expenses, an increase of $602,756 in *Renevia*™ and *HyStem*® program related development expenses, an increase of $89,110 in the amortization of patent technology related to our acquisition of assets from CTI and merger with Glycosan in 2011 and the merger with XenneX in 2012, an increase of $40,656 in scientific consulting fees, an increase of $22,606 in rent and building maintenance expenses allocated to research and development expenses, an increase of $22,161 in lab equipment repairs and maintenance expenses, an increase of $19,274 in travel, lodging and meals allocated to research and development expenses, and an increase of $149,968 in Cell Cure Neurosciences research and development expenses. These increases were offset in part by a decrease of $184,149 in outside research and service expenses and a decrease of $154,913 in ESI research and development expenses. Research and development expenses include laboratory study expenses, patent and technology license fees, employee compensation, rent, insurance, and science-related consultants' fees.

Research and development expenses increased to $13,323,410 for the nine months ended September 30, 2012 from $9,756,443 for the nine months ended September 30, 2011. Research and development expenses for the nine months ended September 30, 2012 and 2011, also included $3,386,041 and $3,577,747, respectively, of research and development expenses incurred by ESI and Cell Cure Neurosciences, of which $1,156,362 and $1,245,799, respectively, is derived from the amortization of patent technology related to our acquisition of those subsidiaries in May and October 2010, respectively. Aside from these expenses, the increase in research and development expenses during 2012 is primarily attributable to an increase of $1,573,722 in employee compensation and related costs allocated to research and development expenses, an increase of $1,073,482 in *HyStem*® program related research expenses, an increase of $226,336 in the amortization of patent technology related to our acquisition of assets from CTI and merger with Glycosan in 2011 and the merger with XenneX in 2012, an increase of $274,624 in expenditures made to cover laboratory expenses and supplies, an increase of $160,008 in licenses, patent and trademark related fees and legal fees, an increase of $134,686 in scientific consulting fees, an increase of $102,391 in depreciation expense allocated to research and development expenses, an increase of $91,013 in travel, lodging and meals allocated to research and development expenses, an increase of $81,098 in rent and building maintenance allocated to research and development expenses, and an increase of $82,633 in Cell Cure Neurosciences research and development expenses. These increases were offset in part by a decrease of $274,339 in ESI research and development expenses. Research and development expenses include laboratory study expenses, patent and technology license fees, employee compensation, rent, insurance, and science-related consultants' fees.

General and administrative expenses increased to $2,234,905 for the three months ended September 30, 2012 from $1,887,298 for the three months ended September 30, 2011. General and administrative expenses for the three months ended September 30, 2012 and 2011 also included $197,618 and $235,432, respectively, of general and administrative expense incurred by ESI and Cell Cure Neurosciences, which we acquired in May and October of 2010, respectively. The increase is further attributable to an increase of $296,074 in employee compensation, bonuses and related costs allocated to general and administrative expenses, an increase of $52,498 in stock based compensation allocated to general and administrative expenses, an increase of $47,226 in legal expenses, an increase of $37,138 in accounting and tax services, an increase of $28,316 in general consulting expenses, an increase of $24,308 in rent and building maintenance allocated to research and development expenses, and an increase of $21,000 director compensation expense. These increases are in part offset by a decrease of $72,631 in travel, lodging and meals allocated to general and administrative expenses, a decrease of $31,931 in recruiting service expenses, a decrease of $29,778 in general office expenses, and a decrease of $22,599 and $15,215 in ESI and Cell Cure Neurosciences general and administrative expenses. General and administrative expenses include employee and director compensation allocated to general and administrative expenses, consulting fees other than those paid for science-related consulting, insurance costs allocated to general and administrative expenses, stock exchange-related costs, depreciation expense, shipping expenses, marketing costs, and other miscellaneous expenses.

General and administrative expenses increased to $7,037,807 for the nine months ended September 30, 2012 from $6,193,383 for the nine months ended September 30, 2011. General and administrative expenses for the nine months ended September 30, 2012 and 2011 also included $604,943 and $602,731, respectively, of general and administrative expense incurred by ESI and Cell Cure Neurosciences, which we acquired in May and October of 2010, respectively. The increase is further attributable to an increase of $779,440 in employee compensation, bonuses and related costs allocated to general and administrative expenses, an increase of $133,164 in stock based compensation expenses allocated to general and administrative expenses, an increase of $87,991 in accounting and tax services, an increase of $42,636 in rent and building maintenance allocated to general and administrative expenses, an increase of $35,070 in general consulting fees, and an increase of $44,963 in Cell Cure Neurosciences general and administrative expenses. These increases are in part offset by a decrease of $90,441 in recruiting service expenses, a decrease of $61,504 in travel, lodging and meals allocated to general and administrative expenses, a decrease of $60,814 in transfer agent, stock listing and registration fees, a decrease of $34,569 in depreciation expenses allocated to general and administrative expenses and a decrease of $42,751 in ESI general and administrative expenses. General and administrative expenses include employee and director compensation allocated to general and administrative expenses, consulting fees other than those paid for science-related consulting, insurance costs allocated to general and administrative expenses, stock exchange-related costs, depreciation expense, shipping expenses, marketing costs, and other miscellaneous expenses.

The following table shows the amount and approximate percentages of our total general and administrative expenses allocated to BioTime and our subsidiaries during the nine months ended September 30, 2012 and 2011.

| Company | Amount | | Percent | |
|---|---|---|---|---|
| | 2012 | 2011 | 2012 | 2011 |
| BioTime | $ 3,264,699 | $ 2,719,755 | 46.4% | 43.9% |
| BAC | $ 32,308 | $ — | 0.5% | 0.0 |
| BioTime Asia | $ 799,098 | $ 802,951 | 11.3% | 13.0% |
| Cell Cure Neurosciences* | $ 525,450 | $ 436,790 | 7.5% | 7.0% |
| ESI* | $ 392,411 | $ 363,670 | 5.6% | 5.9% |
| LifeMap | $ 909,518 | $ 236,713 | 12.9% | 3.8% |
| OncoCyte | $ 511,614 | $ 505,308 | 7.3% | 8.2% |
| OrthoCyte | $ 304,867 | $ 769,650 | 4.3% | 12.4% |
| ReCyte Therapeutics | $ 297,842 | $ 358,546 | 4.2% | 5.8% |

* Amount includes general and administrative expenses incurred directly by the subsidiary and allocations from BioTime, Inc. for certain general overhead expenses such as salaries, insurance, and travel and entertainment expenses. During the nine months ended September 30, 2012 BioTime allocated $247,669 and $65,250 in general and administrative expenses to ESI and Cell Cure Neurosciences, respectively. During the nine months ended September 30, 2011, BioTime allocated $176,177 and $21,552 in general and administrative expenses to ESI and Cell Cure Neurosciences, respectively.

*Interest and Other Income (Expense)*

For the three months ended September 30, 2012, we earned $5,684 of interest income net of $60 of interest expense, compared to interest income of $3,806 net of $895 of interest expense for the three months ended September 30, 2011. For the nine months ended September 30, 2012, we earned $17,636 of interest income net of $315 of interest expense, compared to interest income of $20,778 net of $1,073 of interest expense for the nine months ended September 30, 2011. The decline in interest income is generally attributed to interest earned on lower cash balances held during 2012 compared to 2011.

Other expenses for the nine months ended September 30, 2012 includes reversal of $205,926 in revenues recognized by ESI. The $205,926 represents US $200,000 that was recognized as revenues in 2011 upon the shipment of cell lines in accordance with an agreement between ESI and a customer. The difference of $5,926 is attributed to foreign currency rates. The revenue for the cell lines shipped to the customer was reversed during the first quarter of 2012 pending the final completion of audits and acceptance of vials by the customer which was incorrectly assumed to have occurred in December 2011.

*Income Taxes*

During the three and nine months ended September 30, 2012 and 2011, we had no Federal and state income tax obligations because we have substantial net operating loss carryovers and have provided a 100% valuation allowance for any deferred taxes.

**Liquidity and Capital Resources**

At September 30, 2012, we had $7,830,347 of cash and cash equivalents on hand. We will depend upon revenue from the sale of our research products, subscription and advertising revenues, royalties from the sale of *Hextend*® by Hospira and CJ, and research grants as our principal sources of revenues for the near future. Our CIRM grant, which was our largest source of grant revenues, expired during August 2012 and will no longer be a source of cash for our operations. Although we have applied for additional CIRM grants, there is no assurance that CIRM will approve any future grants for our research and development programs.

Because our revenues from product sales, subscription and advertising revenues, and royalties are not presently sufficient to cover our operating expenses, we may need to obtain additional equity capital or debt in order to finance our operations. The future availability and terms of equity or debt financing are uncertain. We presently have issued and outstanding 556,613 common share purchase warrants exercisable at a price of $10.00 per share, 50,000 of which expire in April 2014 and the remaining 506,613 expire in May 2014. None of the warrants are publicly traded.

On August 24, 2012, we entered into a Controlled Equity Offering SM sales agreement with Cantor Fitzgerald & Co. (“Cantor”), pursuant to which we may offer and sell up to $25 million of our common shares, from time to time through Cantor acting as our sales agent. The offer and sale of our shares through Cantor has been registered pursuant to registration statement filed under the Securities Act of 1933, as amended. The offering pursuant to the sales agreement will terminate upon the sale of all shares subject to the sales agreement or the earlier termination of the sales agreement as permitted by its terms. There is no assurance that we will be able to sell any common shares through the offering at prices acceptable to us.

Under the sales agreement, Cantor may sell shares of our common stock by any method permitted by law deemed to be an “at-the-market” offering as defined in Rule 415 of the SEC Securities Act of 1933, as amended, including, but not limited to, sales made directly on NYSE MKT, on any other existing trading market for our common stock or to or through a market maker. Cantor may also sell our shares under the sales agreement by any other method permitted by law, including in privately negotiated transactions. Cantor has agreed in the sales agreement to use its commercially reasonable efforts to sell shares in accordance with our instructions (including any price, time or size limit or other customary parameters or conditions we may impose).

The unavailability or inadequacy of financing or revenues to meet future capital needs could force us to modify, curtail, delay, or suspend some or all aspects of our planned operations. Sales of additional equity securities could result in the dilution of the interests of present shareholders.

*Cash generated by operations*

During the nine months ended September 30, 2012, we received $2,336,820 of cash in our operations. Our sources of that cash were $319,683 of royalty revenues from Hospira, $87,731 of royalty revenues from CJ, a $392,665 research grant payment from CIRM, a $35,296 research grant payment from the NIH, $133,483 from subscription and advertising revenues, $124,585 collected against receivables assumed from the merger with XenneX in May 2012, $207,444 from the sale of research products and services, and $15,588 and $1,019,345 grant income from LifeMap Sciences, Ltd and Cell Cure Neurosciences, respectively.

*Cash used in operations*

During the nine months ended September 30, 2012, our total research and development expenditures were $13,323,410, and our general and administrative expenditures were $7,037,807. Net loss attributable to BioTime for the nine months ended September 30, 2012, amounted to $15,390,749. Net cash used in operating activities during the quarter amounted to $14,683,440. The difference between the net loss and net cash used in operating activities during the quarter was primarily attributable to non-cash expenses and accrued revenues, including $986,769 in stock-based compensation paid to employees and consultants, $454,366 in options issued as independent director compensation, amortization of $1,764,382 in intangible assets, $582,186 amortization of deferred consulting fees, $82,129 amortization of deferred license and royalty fees, $283,637 in depreciation expense, $584,744 in grant receivables, $140,220 in prepaid expenses and other current assets, and $205,926 in reduction in receivables from the reversal of revenues. This overall difference was offset to some extent by amortization of $220,764 in deferred license and royalty revenues, amortization of $261,777 in deferred grant income, $459,555 in accounts receivables, $699,155 in accounts payable and accrued liabilities, and net loss of $2,763,169 allocable to the noncontrolling interest in our subsidiaries.

*Cash flows from investing activities*

During the nine months ended September 30, 2012, $91,223 in net cash was provided from our investing activities. The primary component of cash was $292,387 of cash acquired in connection with the merger with XenneX, offset by $205,135 cash used in the purchase of equipment.

*Cash generated by financing activities*

During the nine months ended September 30, 2012, $286,552 in net cash was provided from our financing activities. The cash was received in connection with the exercise of stock options issued under our stock option plan.

*Contractual obligations*

We had no fixed, non-cancelable contractual obligations as of September 30, 2012, with the exception of office and laboratory facility operating leases. The lease of our office and laboratory in Alameda, California expires on January 31, 2016. We have an option to extend the lease for one additional term of five years, with the rent to be determined at the time of the extension based on the prevailing market rate for comparable facilities. Base monthly rent under our current Alameda facility lease is $28,987 per month ($29,856 from December 2012) and will increase by three percent each year. In addition to the base rent, we pay a pro rata share of real property taxes and certain costs associated to the operation and maintenance of the building in which the leased premises are located.

We also currently pay $5,050 per month for the use of approximately 900 square feet of office space in New York City, which is made available to us by one of our directors at his cost for use in conducting meetings and other business affairs.

ESI's lease of office space in Singapore expired on October 31, 2012. Base monthly rent under that lease was S$2,952 (~US$2,400). The lease was not renewed. ESI's Singapore lease of lab space expired on October 31, 2012. Base monthly rent under the Singapore laboratory lease was S$8,700 (~US$7,090). The lease was renewed and expires on October 31, 2013. Base monthly rent under new lease will be S$9,600 (~US$7,820). In addition to base rent, ESI pays a pro rata share of real property taxes and certain costs related to the operation and maintenance of the building in which the leased premises are located.

LifeMap's lease of office space in Tel Aviv, Israel expired on April 30, 2012. Base monthly rent under that lease was ILS 15,000 (~US$3,820) per month. The lease was renewed with additional space effective June 1, 2012 through May 31, 2015. Base monthly rent under the renewed lease is ILS 20,720 (~US$5,280) per month. The original lease was extended through May 31 as the new space was not ready on May 1. In addition to base rent, LifeMap pays a pro rata share of real property taxes and certain costs related to the operation and maintenance of the building in which the leased premises are located. LifeMap also leases several parking spots.

LifeMap also currently leases office space in Hong Kong. This lease expires on November 30, 2013. Base monthly rent under the lease is HK$6,401 (~US $825) per month for the use of approximately 800 square feet of office space. In addition to base rent, LifeMap pays certain costs related to the operation of the building in which the leased premises are located.

LifeMap also currently leases office space in Marshfield, Massachusetts. This lease expires on September 30, 2015. Base monthly rent under the lease is $1,082 per month for the use of approximately 750 square feet of office space. The lease was assumed in connection with the merger with XenneX which occurred in May 2012.

Cell Cure Neurosciences' lease of office and laboratory space in Israel expires on June 1, 2014. Base monthly rent for that facility is approximately ILS 33,000 (~US$8,400). In addition to base rent, Cell Cure Neurosciences pays a pro rata share of real property taxes and certain costs related to the operation and maintenance of the building in which the leased premises are located. Cell Cure Neurosciences will be liable for ILS 850,000 (~US$216,640) in improvement costs should they not renew the lease after it expires.

*Future capital needs*

The amount and pace of research and development work that we can do or sponsor, and our ability to commence and complete the clinical trials that are required in order for us to obtain FDA and foreign regulatory approval of products, depend upon the amount of money we have. We curtailed the pace and scope of our plasma volume expander development efforts due to the limited amount of funds available. Future research and clinical study costs are not presently determinable due to many factors, including the inherent uncertainty of these costs and the uncertainty as to timing, source, and amount of capital that will become available for our projects.

**Item 3. Quantitative and Qualitative Disclosures about Market Risk**

*Foreign Currency Exchange Risk*

We are exposed to some foreign exchange currency risks because we have subsidiaries that are located in foreign countries. We do not engage in foreign currency hedging activities. Because we translate foreign currencies into United States dollars for reporting purposes, currency fluctuations have an impact on our financial results. We believe that our exposure to currency exchange fluctuation risk is mitigated by the fact that our foreign subsidiaries pay their financial obligations almost exclusively in their local currency. As of September 30, 2012, currency exchange rates did not have a material impact on our intercompany transactions with our foreign subsidiaries. However, a weakening of the dollar against the foreign exchange used in the home countries of our foreign subsidiaries could increase our cost of providing additional financing to our foreign subsidiaries in the future. Conversely, a strengthening of the dollar would decrease our cost of making additional investments in those subsidiaries.

*Credit Risk*

We place most of our cash in United States banks and we invest some of our cash in interest bearing instruments issued by United States banks or the United States Treasury. Deposits with banks may temporarily exceed the amount of insurance provided on such deposits. We monitor the cash balances in our accounts and adjust the cash balances as appropriate, but if the amount of a deposit at any time exceeds the federally insured amount at a bank, the uninsured portion of the deposit could be lost, in whole or in part, if the bank were to fail.

Our foreign subsidiaries deposit their cash in local banks, but if the amount of a deposit at any time exceeds the amount at a bank under the national banking insurance laws, the uninsured portion of the deposit could be lost, in whole or in part, if the bank were to fail.

*Interest Rate Risk*

We invest a portion of our cash in interest-bearing securities issued by the United States Treasury. The primary objective of our investments is to preserve principal and liquidity while earning a return on our invested capital, without incurring significant risks. The market value of fixed-rate instruments will decline if interest rates rise. Due in part to this factor, our future investment income may fall short of expectations due to changes in market conditions and in interest rates, or we may suffer losses in principal if forced to sell securities which may have declined in fair value due to changes in interest rates.

**Item 4. Controls and Procedures**

*Evaluation of Disclosure Controls and Procedures*

It is management's responsibility to establish and maintain adequate internal control over all financial reporting pursuant to Rule 13a-15 under the Securities Exchange Act of 1934 (the "Exchange Act"). Our management, including our principal executive officer, our principal operations officer, and our principal financial officer, have reviewed and evaluated the effectiveness of our disclosure controls and procedures as of a date within ninety (90) days of the filing date of this Quarterly Report on Form 10-Q. Following this review and evaluation, management collectively determined that our disclosure controls and procedures are effective to ensure that information required to be disclosed by us in reports that we file or submit under the Exchange Act (i) is recorded, processed, summarized, and reported within the time periods specified in SEC rules and forms, and (ii) is accumulated and communicated to management, including our chief executive officer, our chief operations officer, and our chief financial officer, as appropriate to allow timely decisions regarding required disclosure.

*Changes in Internal Controls*

There were no changes in our internal control over financial reporting that occurred during the period covered by this Quarterly Report on Form 10-Q that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

## PART II - OTHER INFORMATION

**Item 1. Controls and Procedures**

We are not presently involved in any material litigation or proceedings, and to our knowledge no such litigation or proceedings are contemplated.

**Item 1A. Risk Factors**

*Our business is subject to various risks, including those described below. You should consider the following risk factors, together with all of the other information included in this report, which could materially adversely affect our proposed operations, our business prospects, and financial condition, and the value of an investment in our business. There may be other factors that are not mentioned here or of which we are not presently aware that could also affect our business operations and prospects.*

### Risks Related to Our Business Operations

**We have incurred operating losses since inception and we do not know if we will attain profitability**

Our comprehensive net losses for the nine months ended September 30, 2012 and for the fiscal years ended December 31, 2011, 2010 and 2009 were $15,390,749, $17,535,587, $10,287,280, and $5,144,499, respectively, and we had an accumulated deficit of $95,860,758 as of September 30, 2012, and $80,470,009, $63,954,509, and $52,769,891, as of December 31, 2011, 2010, and 2009, respectively. Since inception, we have primarily financed our operations through the sale of equity securities, licensing fees, royalties on product sales by our licensees, and borrowings. More recently, we have financed a portion of our operations with research grants. Ultimately, our ability to generate sufficient operating revenue to earn a profit depends upon our success in developing and marketing or licensing our products and technology.

**We will spend a substantial amount of our capital on research and development but we might not succeed in developing products and technologies that are useful in medicine**

- We are attempting to develop new medical products and technologies.
- Many of our experimental products and technologies have not been applied in human medicine and have only been used in laboratory studies *in vitro* or in animals. These new products and technologies might not prove to be safe and efficacious in the human medical applications for which they were developed.
- The experimentation we are doing is costly, time consuming, and uncertain as to its results. We incurred research and development expenses amounting to $13,323,410 during the nine months ended September 30, 2012, and $13,699,691, $8,191,314, and $3,181,729 during the fiscal years ended December 31, 2011, 2010, and 2009, respectively.
- If we are successful in developing a new technology or product, refinement of the new technology or product and definition of the practical applications and limitations of the technology or product may take years and require the expenditure of large sums of money.
- Future clinical trials of new therapeutic products, particularly those products that are regulated as drugs or biological, will be very expensive and will take years to complete. We may not have the financial resources to fund clinical trials on our own and we may have to enter into licensing or collaborative arrangements with larger, well-capitalized pharmaceutical companies in order to bear the cost. Any such arrangements may be dilutive to our ownership or economic interest in the products we develop, and we might have to accept a royalty payment on the sale of the product rather than receiving the gross revenues from product sales.

**Our success depends in part on the uncertain growth of the stem cell industry, which is still in its infancy**

- The success of our business of selling products for use in stem cell research depends on the growth of stem cell research, without which there may be no market or only a very small market for our products and technology. The likelihood that stem cell research will grow depends upon the successful development of stem cell products that can be used to treat disease or injuries in people or that can be used to facilitate the development of other pharmaceutical products. The growth in stem cell research also depends upon the availability of funding through private investment and government research grants.

- There can be no assurance that any safe and efficacious human medical applications will be developed using stem cells or related technology.

- Government-imposed bans, restrictions and religious, moral, and ethical concerns with respect to use of embryos or human embryonic stem cells in research and development could have a material adverse effect on the growth of the stem cell industry, even if research proves that useful medical products can be developed using human embryonic stem cells.

**Sales of our products to date have not been sufficient to generate an amount of revenue sufficient to cover our operating expenses**

- *Hextend*® is presently the only plasma expander product that we have on the market, and it is being sold only in the United States and South Korea. The royalty revenues that we have received from sales of *Hextend*® have not been sufficient to pay our operating expenses. This means that we need to successfully develop and market or license additional products and earn additional revenues in sufficient amounts to meet our operating expenses.

- We will receive additional license fees and royalties if our licensees are successful in marketing *Hextend*® and *PentaLyte*® in Japan, Taiwan, and China, but they have not yet obtained the regulatory approvals required to begin selling those products.

- We are also beginning to bring our first stem cell research products to the market, but there is no assurance that we will succeed in generating significant revenues from the sale of those products.

**Sales of the products we may develop will be adversely impacted by the availability of competing products**

- Sales of *Hextend*® have already been adversely impacted by the availability of other products that are commonly used in surgery and trauma care and sell at low prices.

- In order to compete with other products, particularly those that sell at lower prices, our products will have to provide medically significant advantages.

- Physicians and hospitals may be reluctant to try a new product due to the high degree of risk associated with the application of new technologies and products in the field of human medicine.

- Competing products are being manufactured and marketed by established pharmaceutical companies. For example, B. Braun/McGaw presently markets *Hespan*®, an artificial plasma volume expander, and Hospira and Baxter International, Inc. manufacture and sell a generic equivalent of *Hespan*®. Hospira also markets *Voluven*®, a plasma volume expander containing a 6% low molecular weight hydroxyethyl starch in saline solution.

- There also is a risk that our competitors may succeed at developing safer or more effective products that could render our products and technologies obsolete or noncompetitive.

**We might need to issue additional equity or debt securities in order to raise additional capital needed to pay our operating expenses**

- We plan to continue to incur substantial research and product development expenses, largely through our subsidiaries, and we and our subsidiaries will need to raise additional capital to pay operating expenses until we are able to generate sufficient revenues from product sales, royalties, and license fees.

- It is likely that additional sales of equity or debt securities will be required to meet our short-term capital needs, unless we receive substantial revenues from the sale of our new products or we are successful at licensing or sublicensing the technology that we develop or acquire from others and we receive substantial licensing fees and royalties.

- Sales of additional equity securities by us or our subsidiaries could result in the dilution of the interests of present shareholders.

**The amount and pace of research and development work that we and our subsidiaries can do or sponsor, and our ability to commence and complete clinical trials required to obtain regulatory approval to market our pharmaceutical and medical device products, depends upon the amount of money we have**

- At September 30, 2012, we had $7,830,347 of cash and cash equivalents on hand. There can be no assurance that we or our subsidiaries will be able to raise additional funds on favorable terms or at all, or that any funds raised will be sufficient to permit us or our subsidiaries to develop and market our products and technology. Unless we and our subsidiaries are able to generate sufficient revenue or raise additional funds when needed, it is likely that we will be unable to continue our planned activities, even if we make progress in our research and development projects.

- We may have to postpone some laboratory research and development work unless our cash resources increase through a growth in revenues or additional equity investment or borrowing.

**Our business could be adversely affected if we lose the services of the key personnel upon whom we depend**

Our stem cell research program is directed primarily by our Chief Executive Officer, Dr. Michael West. The loss of Dr. West's services could have a material adverse effect on us.

**If we make strategic acquisitions, we will incur a variety of costs and might never realize the anticipated benefits**

Despite our acquisitions of ESI in 2010, Glycosan and Cell Targeting in 2011, and XenneX in 2012, we have limited experience in independently identifying acquisition candidates and integrating the operations of acquisition candidates with our company. If appropriate opportunities become available, we might attempt to acquire approved products, additional drug candidates, technologies or businesses that we believe are a strategic fit with our business. If we pursue any transaction of that sort, the process of negotiating the acquisition and integrating an acquired product, drug candidate, technology or business might result in operating difficulties and expenditures and might require significant management attention that would otherwise be available for ongoing development of our business, whether or not any such transaction is ever consummated. Moreover, we might never realize the anticipated benefits of any acquisition. Future acquisitions could result in potentially dilutive issuances of equity securities, the incurrence of debt, contingent liabilities, or impairment expenses related to goodwill, and impairment or amortization expenses related to other intangible assets, which could harm our financial condition.

**Failure of our internal control over financial reporting could harm our business and financial results**

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process to provide reasonable assurance regarding the reliability of financial reporting for external purposes in accordance with accounting principles generally accepted in the U.S. Internal control over financial reporting includes maintaining records that in reasonable detail accurately and fairly reflect our transactions; providing reasonable assurance that transactions are recorded as necessary for preparation of the financial statements; providing reasonable assurance that receipts and expenditures of our assets are made in accordance with management authorization; and providing reasonable assurance that unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements would be prevented or detected on a timely basis. Because of its inherent limitations, internal control over financial reporting is not intended to provide absolute assurance that a misstatement of our financial statements would be prevented or detected. Our growth and entry into new products, technologies and markets will place significant additional pressure on our system of internal control over financial reporting. Any failure to maintain an effective system of internal control over financial reporting could limit our ability to report our financial results accurately and timely or to detect and prevent fraud.

Operating our business through subsidiaries, some of which are located in foreign countries, also adds to the complexity of our internal control over financial reporting and adds to the risk of a system failure, an undetected improper use or expenditure of funds or other resources by a subsidiary, or a failure to properly report a transaction or financial results of a subsidiary. We allocate certain expenses among BioTime itself and one or more of our subsidiaries, which creates a risk that the allocations we make may not accurately reflect the benefit of an expenditure or use of financial or other recourses by BioTime as the parent company and the subsidiaries among which the allocations are made. An inaccurate allocation may impact our consolidated financial results, particularly in the case of subsidiaries that we do not wholly own since our financial statements include adjustments to reflect the minority ownership interests in our subsidiaries held by others.

**Our business and operations could suffer in the event of system failures**

Despite the implementation of security measures, our internal computer systems and those of our contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. Such events could cause interruption of our operations. For example, the loss of data for our product candidates could result in delays in our regulatory filings and development efforts and significantly increase our costs. To the extent that any disruption or security breach was to result in a loss of or damage to our data, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the development of our product candidates could be delayed.

## Risks Related to Our Industry

We will face certain risks arising from regulatory, legal, and economic factors that affect our business and the business of other pharmaceutical development companies. Because we are a small company with limited revenues and limited capital resources, we may be less able to bear the financial impact of these risks than is the case with larger companies possessing substantial income and available capital.

**If we do not receive regulatory approvals we will not be permitted to sell our pharmaceutical and medical device products**

The pharmaceutical and medical device products that we and our subsidiaries develop cannot be sold until the United States Food and Drug Administration ("FDA") and corresponding foreign regulatory authorities approve the products for medical use. The need to obtain regulatory approval to market a new product means that:

- We will have to conduct expensive and time-consuming clinical trials of new products. The full cost of conducting and completing clinical trials necessary to obtain FDA and foreign regulatory approval of a new product cannot be presently determined, but could exceed our current financial resources.

- Clinical trials and the regulatory approval process for a pharmaceutical product can take several years to complete. As a result, we will incur the expense and delay inherent in seeking FDA and foreign regulatory approval of new products, even if the results of clinical trials are favorable.

- Data obtained from preclinical and clinical studies is susceptible to varying interpretations that could delay, limit, or prevent regulatory agency approvals. Delays in the regulatory approval process or rejections of an application for approval of a new drug may be encountered as a result of changes in regulatory agency policy.

- Because the therapeutic products we are developing with hES and iPS technology involve the application of new technologies and approaches to medicine, the FDA or foreign regulatory agencies may subject those products to additional or more stringent review than drugs or biologicals derived from other technologies.

- A product that is approved may be subject to restrictions on use.

- The FDA can recall or withdraw approval of a product if problems arise.

- We will face similar regulatory issues in foreign countries.

**Government-imposed bans, restrictions and religious, moral, and ethical concerns about the use of hES cells could prevent us from developing and successfully marketing stem cell products**

- Government-imposed restrictions with respect to the use of embryos or human embryonic stem cells in research and development could limit our ability to conduct research and develop new products.

- Government-imposed bans, restrictions on the use of embryos or hES cells in the United States and abroad could generally constrain stem cell research, thereby limiting the market and demand for our products. During March 2009, President Obama lifted certain restrictions on federal funding of research involving the use of hES cells, and in accordance with President Obama's Executive Order, the National Institutes of Health ("NIH") has adopted new guidelines for determining the eligibility of hES cell lines for use in federally funded research. The central focus of the proposed guidelines is to assure that hES cells used in federally funded research were derived from human embryos that were created for reproductive purposes, were no longer needed for this purpose, and were voluntarily donated for research purposes with the informed written consent of the donors. The hES cells that were derived from embryos created for research purposes rather than reproductive purposes, and other hES cells that were not derived in compliance with the guidelines, are not eligible for use in federally funded research.

- California law requires that stem cell research be conducted under the oversight of a stem cell research oversight committee ("SCRO"). Many kinds of stem cell research, including the derivation of new hES cell lines, may only be conducted in California with the prior written approval of the SCRO. A SCRO could prohibit or impose restrictions on the research that we plan to do.

- The use of hES cells gives rise to religious, moral, and ethical issues regarding the appropriate means of obtaining the cells and the appropriate use and disposal of the cells. These considerations could lead to more restrictive government regulations or could generally constrain stem cell research, thereby limiting the market and demand for our products.

**If we are unable to obtain and enforce patents and to protect our trade secrets, others could use our technology to compete with us, which could limit opportunities for us to generate revenues by licensing our technology and selling products**

- Our success will depend in part on our ability to obtain and enforce patents and maintain trade secrets in the United States and in other countries. If we are unsuccessful at obtaining and enforcing patents, our competitors could use our technology and create products that compete with our products, without paying license fees or royalties to us.

- The preparation, filing, and prosecution of patent applications can be costly and time consuming. Our limited financial resources may not permit us to pursue patent protection of all of our technology and products throughout the world.

- Even if we are able to obtain issued patents covering our technology or products, we may have to incur substantial legal fees and other expenses to enforce our patent rights in order to protect our technology and products from infringing uses. We may not have the financial resources to finance the litigation required to preserve our patent and trade secret rights.

**There is no certainty that our pending or future patent applications will result in the issuance of patents**

- We have filed patent applications for technology that we have developed, and we have obtained licenses for a number of patent applications covering technology developed by others, that we believe will be useful in producing new products, and which we believe may be of commercial interest to other companies that may be willing to sublicense the technology for fees or royalty payments. In the future, we may also file additional new patent applications seeking patent protection for new technology or products that we develop ourselves or jointly with others. However, there is no assurance that any of our licensed patent applications, or any patent applications that we have filed or that we may file in the future covering our own technology, either in the United States or abroad, will result in the issuance of patents.

- In Europe, the European Patent Convention prohibits the granting of European patents for inventions that concern "uses of human embryos for industrial or commercial purposes." The European Patent Office is presently interpreting this prohibition broadly, and is applying it to reject patent claims that pertain to human embryonic stem cells. However, this broad interpretation is being challenged through the European Patent Office appeals system. As a result, we do not yet know whether or to what extent we will be able to obtain patent protection for our human embryonic stem cell technologies in Europe.

- The recent Supreme Court decision in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, will need to be considered in determining whether certain diagnostic methods can be patented, since the Court denied patent protection for the use of a mathematical correlation of the presence of a well-known naturally occurring metabolite as a means of determining proper drug dosage. Our subsidiary OncoCyte is developing *PanC-Dx*™ as a cancer diagnostic test, based on the presence of certain genetic markers for a variety of cancers. Because *PanC-Dx*™ combines an innovative methodology with newly discovered compositions of matter, we are hopeful that this Supreme Court decision will not preclude the availability of patent protection for OncoCyte's new product. However, like other developers of diagnostic products, we are evaluating this new Supreme Court decision and are waiting to see if the United States Patent and Trademark Office will issue any new guidelines for the patenting of products that test for biological substances.

**The process of applying for and obtaining patents can be expensive and slow**

- The preparation and filing of patent applications, and the maintenance of patents that are issued, may require substantial time and money.

- A patent interference proceeding may be instituted with the United States Patent and Trademark Office ("U.S. PTO") when more than one person files a patent application covering the same technology, or if someone wishes to challenge the validity of an issued patent. At the completion of the interference proceeding, the PTO will determine which competing applicant is entitled to the patent, or whether an issued patent is valid. Patent interference proceedings are complex, highly contested legal proceedings, and the PTO's decision is subject to appeal. This means that if an interference proceeding arises with respect to any of our patent applications, we may experience significant expenses and delay in obtaining a patent, and if the outcome of the proceeding is unfavorable to us, the patent could be issued to a competitor rather than to us.

- Oppositions to the issuance of patents may be filed under European patent law and the patent laws of certain other countries. As with the U.S. PTO interference proceedings, these foreign proceedings can be very expensive to contest and can result in significant delays in obtaining a patent or can result in a denial of a patent application.

**Our patents may not protect our products from competition**

We or our subsidiaries have patents in the United States, Canada, the European Union countries, Australia, Israel, Russia, South Africa, South Korea, Japan, Hong Kong, and Singapore, and have filed patent applications in other foreign countries for our plasma volume expander, stem cell products, *HyStem*® and other hydrogels, certain genes related to the development of cancer, and other technologies.

- We might not be able to obtain any additional patents, and any patents that we do obtain might not be comprehensive enough to provide us with meaningful patent protection.

- There will always be a risk that our competitors might be able to successfully challenge the validity or enforceability of any patent issued to us.

- In addition to interference proceedings, the U.S. PTO can re-examine issued patents at the request of a third party seeking to have the patent invalidated. This means that patents owned or licensed by us may be subject to re-examination and may be lost if the outcome of the re-examination is unfavorable to us.

**We may be subject to patent infringement claims that could be costly to defend, which may limit our ability to use disputed technologies, and which could prevent us from pursuing research and development or commercialization of some of our products**

The success of our business depends significantly on our ability to operate without infringing patents and other proprietary rights of others. If the technology that we use infringes a patent held by others, we could be sued for monetary damages by the patent holder or its licensee, or we could be prevented from continuing research, development, and commercialization of products that rely on that technology, unless we are able to obtain a license to use the patent. The cost and availability of a license to a patent cannot be predicted, and the likelihood of obtaining a license at an acceptable cost would be lower if the patent holder or any of its licensees is using the patent to develop or market a product with which our product would compete. If we could not obtain a necessary license, we would need to develop or obtain rights to alternative technologies, which could prove costly and could cause delays in product development, or we could be forced to discontinue the development or marketing of any products that were developed using the technology covered by the patent.

**If we fail to meet our obligations under license agreements, we may lose our rights to key technologies on which our business depends**

Our business depends on several critical technologies that are based in part on technology licensed from third parties. Those third-party license agreements impose obligations on us, including payment obligations and obligations to pursue development of commercial products under the licensed patents or technology. If a licensor believes that we have failed to meet our obligations under a license agreement, the licensor could seek to limit or terminate our license rights, which could lead to costly and time-consuming litigation and, potentially, a loss of the licensed rights. During the period of any such litigation, our ability to carry out the development and commercialization of potential products, and our ability to raise any capital that we might then need, could be significantly and negatively affected. If our license rights were restricted or ultimately lost, we would not be able to continue to use the licensed technology in our business.

**The price and sale of our products may be limited by health insurance coverage and government regulation**

Success in selling our pharmaceutical products may depend in part on the extent to which health insurance companies, HMOs, and government health administration authorities such as Medicare and Medicaid will pay for the cost of the products and related treatment. Presently, most health insurance plans and HMOs will pay for *Hextend*® when it is used in a surgical procedure that is covered by the plan. However, until we actually introduce a new product into the medical marketplace, we will not know with certainty whether adequate health insurance, HMO, and government coverage will be available to permit the product to be sold at a price high enough for us to generate a profit. In some foreign countries, pricing or profitability of health care products is subject to government control, which may result in low prices for our products. In the United States, there have been a number of federal and state proposals to implement similar government controls, and new proposals are likely to be made in the future.

**Risks Related to our Dependence on Third Parties**

**We may become dependent on our collaborative arrangements with third parties for a substantial portion of our revenue, and our development and commercialization activities may be delayed or reduced if we fail to initiate, negotiate or maintain successful collaborative arrangements.**

We may become dependent on possible future collaborators to develop and commercialize many of our product candidates and to provide the regulatory compliance, sales, marketing and distribution capabilities required for the success of our business. If we fail to secure or maintain successful collaborative arrangements, our development and commercialization activities will be delayed, reduced or terminated, and our revenues could be materially and adversely impacted. Over the next several years, we may depend on these types of collaboration partnerships for a significant portion of our revenue. The expected future milestone payments and cost reimbursements from collaboration agreements could provide an important source of financing for our research and development programs, thereby facilitating the application of our technology to the development and commercialization of our products. These collaborative agreements might be terminated either by us or by our partners upon the satisfaction of certain notice requirements. Our partners may not be precluded from independently pursuing competing products and drug delivery approaches or technologies. Even if our partners continue their contributions to our collaborative arrangements, of which there can be no assurance, they may nevertheless determine not to actively pursue the development or commercialization of any resulting products. Our partners may fail to perform their obligations under the collaborative arrangements or may be slow in performing their obligations. In addition, our partners may experience financial difficulties at any time that could prevent them from having available funds to contribute to these collaborations. If our collaboration partners fail to conduct their commercialization, regulatory compliance, sales and marketing or distribution activities successfully and in a timely manner, or if they terminate or materially modify their agreements with us, the development and commercialization of one or more product candidates could be delayed, curtailed or terminated because we may not have sufficient financial resources or capabilities to continue such development and commercialization on our own.

**We have very limited experience in marketing, selling or distributing our products, and we may need to rely on marketing partners or contract sales companies.**

Even if we are able to develop our products and obtain necessary regulatory approvals, we have very limited experience or capabilities in marketing, selling or distributing our products. We rely entirely on Hospira and CJ for the sale of *Hextend*®. We currently have only limited sales, marketing and distribution resources for selling our stem cell research products, and no marketing or distribution resources for selling any of the medical devices or pharmaceutical products that we are developing. Accordingly, we will be dependent on our ability to build our own marketing and distribution capability for our new products, which would require the investment of significant financial and management resources, or we will need to find collaborative marketing partners or contract sales companies for commercial sale of those products. Even if we find a potential marketing partner, of which there can be no assurance, we may not be able to negotiate a licensing or marketing contract on favorable terms to justify our investment or achieve adequate revenues.

## Risks Pertaining to Our Common Shares

Ownership of our common shares will entail certain risks associated with the volatility of prices for our shares and the fact that we do not pay dividends on our common shares.

**Because we are engaged in the development of pharmaceutical and stem cell research products, the price of our stock may rise and fall rapidly**

- The market price of our shares, like that of the shares of many biotechnology companies, has been highly volatile.
- The price of our shares may rise rapidly in response to certain events, such as the commencement of clinical trials of an experimental new drug, even though the outcome of those trials and the likelihood of ultimate FDA approval remain uncertain.
- Similarly, prices of our shares may fall rapidly in response to certain events such as unfavorable results of clinical trials or a delay or failure to obtain FDA approval.
- The failure of our earnings to meet analysts' expectations could result in a significant rapid decline in the market price of our common shares.

**Current economic and stock market conditions may adversely affect the price of our common shares**

The stock market has been experiencing extreme price and volume fluctuations which have affected the market price of the equity securities without regard to the operating performance of the issuing companies. Broad market fluctuations, as well as general economic and political conditions, may adversely affect the market price of the common shares.

**Because we do not pay dividends, our stock may not be a suitable investment for anyone who needs to earn dividend income**

We do not pay cash dividends on our common shares. For the foreseeable future, we anticipate that any earnings generated in our business will be used to finance the growth of our business and will not be paid out as dividends to our shareholders. This means that our stock may not be a suitable investment for anyone who needs to earn income from their investments.

**Securities analysts may not initiate coverage or continue to cover our common shares and this may have a negative impact on the market price of our shares**

The trading market for our common shares will depend, in part, on the research and reports that securities analysts publish about our business and our common shares. We do not have any control over these analysts. There is no guarantee that securities analysts will cover our common shares. If securities analysts do not cover our common shares, the lack of research coverage may adversely affect the market price of those shares. If securities analysts do cover our shares, they could issue reports or recommendations that are unfavorable to the price of our shares, and they could downgrade a previously favorable report or recommendation, and in either case our share price could decline as a result of the report. If one or more of these analysts does not initiate coverage, ceases to cover our shares or fails to publish regular reports on our business, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline.

**You may experience dilution of your ownership interests because of the future issuance of additional shares of common and preferred shares by us and our subsidiaries**

In the future, we may issue our authorized but previously unissued equity securities, resulting in the dilution of the ownership interests of our present shareholders. We are currently authorized to issue an aggregate of 76,000,000 shares of capital stock consisting of 75,000,000 common shares and 1,000,000 "blank check" preferred shares. As of September 30, 2012, there were 50,868,932 issued and outstanding common shares, 3,492,135 common shares reserved for issuance upon the exercise of outstanding options under our employee stock option plans, and 556,613 shares reserved for issuance upon the exercise of common share purchase warrants. As of September 30, 2012 our subsidiaries held, 1,706,174 BioTime common shares which the subsidiaries may sell from time to time to raise capital for their operations. No preferred shares are presently outstanding.

The operation of some of our subsidiaries has been financed in part through the sale of capital stock in those subsidiaries to private investors. Sales of additional subsidiary shares could reduce our ownership interest in the subsidiaries, and correspondingly dilute our shareholder's ownership interests in our consolidated enterprise. Our subsidiaries also have their own stock option plans and the exercise of subsidiary stock options or the sale of restricted stock under those plans would also reduce our ownership interest in the subsidiaries, with a resulting dilutive effect on the ownership interest of our shareholders in our consolidated enterprise.

We and our subsidiaries may issue additional common shares or other securities that are convertible into or exercisable for common shares in order to raise additional capital, or in connection with hiring or retaining employees or consultants, or in connection with future acquisitions of licenses to technology or rights to acquire products, or in connection with future business acquisitions, or for other business purposes. The future issuance of any such additional common shares or other securities may create downward pressure on the trading price of our common shares.

We may also issue preferred shares having rights, preferences, and privileges senior to the rights of our common shares with respect to dividends, rights to share in distributions of our assets if we liquidate our company, or voting rights. Any preferred shares may also be convertible into common shares on terms that would be dilutive to holders of common shares. Our subsidiaries may also issue their own preferred shares with a similar dilutive impact on our ownership of the subsidiaries.

**The market price of our common shares could be impacted by prices at which we sell shares in our subsidiaries**

The operation of some our subsidiaries has been financed in part through the sale of capital stock in those subsidiaries, and our subsidiaries may sell shares of their capital stock in the future for financing purposes. The prices at which our subsidiaries may sell shares of their capital stock could impact the value of our company as a whole and could impact the price at which our common shares trade in the market. Even if subsidiaries sell their capital stock at prices that reflect arm's length negotiation with investors, there is no assurance that those prices will reflect a true fair market value or that the ascribed value of the subsidiary based on those share prices will be fully reflected in the market value of our common shares. Similarly, a sale of subsidiary capital stock at a price that the market perceives as low could adversely impact the market price of our common shares.

**Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.**

No applicable.

**Item 3. Default Upon Senior Securities.**

None.

**Item 4. Mine Safety Disclosures**

Not Applicable.

**Item 5. Other Information.**

None.

**Item 6. Exhibits**

| Exhibit Numbers | Description |
|---|---|
| 2.1 | Agreement and Plan of Merger, dated April 19, 2012, by and among XenneX, Inc., LifeMap Sciences, Inc., BioTime, Inc. and the stockholders of XenneX, Inc. named therein. (Portions of this exhibit have been omitted pursuant to a request for confidential treatment) (1) |
| 3.1 | Articles of Incorporation with all amendments. (2) |
| 3.2 | By-Laws, As Amended. (3) |
| 4.1 | Share Exchange and Contribution Agreement, dated July 24, 2012, among LifeMap Sciences, Inc., Alfred D. Kingsley, and Greenway Partners, L.P. (4) |
| 10.1 | Exclusive License Agreement, dated February 15, 2006, between Glycosan BioSystems, Inc. and the University of Utah Research Foundation, as amended.* |
| 10.2 | Amendment to Share Exchange and Contribution Agreement, dated September 28, 2012, by and among LifeMap Sciences, Inc., Alfred D. Kingsley, and Greenway Partners, L.P.* |
| 10.3 | Share Purchase Agreement, dated November 1, 2012, between Cell Cure Neurosciences, Ltd. and BioTime, Inc.* |
| 31 | Rule 13a-14(a)/15d-14(a) Certification.* |
| 32 | Section 1350 Certification.* |
| 101 | Interactive Data File |
| 101.INS | XBRL Instance Document * |
| 101.SCH | XBRL Taxonomy Extension Schema * |
| 101.CAL | XBRL Taxonomy Extension Calculation Linkbase * |
| 101.LAB | XBRL Taxonomy Extension Label Linkbase * |
| 101.PRE | XBRL Taxonomy Extension Presentation Linkbase * |
| 101.DEF | XBRL Taxonomy Extension Definition Document * |

| | |
|---|---|
| (1) | Incorporated by reference to BioTime’s Form 10-Q for the quarter ended March 31, 2012. |
| (2) | Incorporated by reference to BioTime’s Form 10-Q for the quarter ended September 30, 2009. |
| (3) | Incorporated by reference to Registration Statement on Form S-1, File Number 33-48717 and Post-Effective Amendment No. 1 thereto filed with the Securities and Exchange Commission on June 22, 1992, and August 27, 1992, respectively. |
| (4) | Incorporated by reference to Registration Statement on Form S-3, File Number 333-182964 filed with the Securities and Exchange Commission on July 31, 2012. |
| * | Filed herewith |

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

BIOTIME, INC.

Date: November 9, 2012

*/s/ Michael D. West*
Michael D. West
Chief Executive Officer

Date: November 9, 2012

*/s/ Peter S. Garcia*
Peter S. Garcia
Chief Financial Officer

| Exhibit Numbers | Description |
|---|---|
| 2.1 | Agreement and Plan of Merger, dated April 19, 2012, by and among XenneX, Inc., LifeMap Sciences, Inc., BioTime, Inc. and the stockholders of XenneX, Inc. named therein. (Portions of this exhibit have been omitted pursuant to a request for confidential treatment) (1) |
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| 10.3 | Share Purchase Agreement, dated November 1, 2012, between Cell Cure Neurosciences, Ltd. and BioTime, Inc.* |
| 31 | Rule 13a-14(a)/15d-14(a) Certification.* |
| 32 | Section 1350 Certification.* |
| 101 | Interactive Data File |
| 101.INS | XBRL Instance Document * |
| 101.SCH | XBRL Taxonomy Extension Schema * |
| 101.CAL | XBRL Taxonomy Extension Calculation Linkbase * |
| 101.LAB | XBRL Taxonomy Extension Label Linkbase * |
| 101.PRE | XBRL Taxonomy Extension Presentation Linkbase * |
| 101.DEF | XBRL Taxonomy Extension Definition Document * |

| | |
|---|---|
| (1) | Incorporated by reference to BioTime’s Form 10-Q for the quarter ended March 31, 2012 |
| (2) | Incorporated by reference to BioTime’s Form 10-Q for the quarter ended September 30, 2009. |
| (3) | Incorporated by reference to Registration Statement on Form S-1, File Number 33-48717 and Post-Effective Amendment No. 1 thereto filed with the Securities and Exchange Commission on June 22, 1992, and August 27, 1992, respectively. |
| (4) | Incorporated by reference to Registration Statement on Form S-3, File Number 333-182964 filed with the Securities and Exchange Commission on July 31, 2012. |
| * | Filed herewith |

**EXHIBIT 10.1**

## AMENDMENT

This Amendment ("AMENDMENT") is made and is effective as of May 9, 2006, by and between Glycosan BioSystems, Inc. ("LICENSEE"), having an address at PO Box 2321, Park City, Utah 84060 and the University of Utah Research Foundation ("LICENSOR"), having an address at 615 Arapeen Drive, Suite 310, Salt Lake City, Utah, 84108. LICENSEE and the LICENSOR are referred to herein collectively as "PARTIES".

## Recital

WHEREAS, the PARTIES have previously entered into a License Agreement on February 15, 2006 ("AGREEMENT") to technologies entitled "*In situ* Crosslinkable Synthetic Extracellular Matrices" (U-3405) and "Novel Chemical Modifications of Hyaluronan" (U-3656); and

WHEREAS, the PARTIES wish to amend the AGREEMENT with respect to sections 1.6 and 5.2 of the License Agreement:

NOW THEREFORE, the PARTIES agree to amend the AGREEMENT as follows:

Section 1.6 of the AGREEMENT is hereby deleted in its entirety and replaced with the following;

Section 1.6 **"Field of Use"** shall mean exclusive use all of PATENT RIGHTS excluding human and animal therapeutics, animal health, medical devices and pharmaceutical uses and applications. Including but not limited to uses in cosmetics, uses in topical delivery of compounds which are not FDA-regulated therapeutic agents, reagents and platforms for in vitro cell and tissue culture, platforms and services for in vitro drug toxicology and efficacy testing, materials for preserving or extending the useful life of human organs and tissues, in vivo xenograft models using human tissues, and any other uses not specifically excluded. **"Field of Use"** shall also mean co-exclusive use of PATENT RIGHTS to products and methods in which living tissue or cells are incorporated outside the body into a polymer platform at a facility other than the point-of-care facility, and the resulting hybrid device is then subsequently implanted in humans for therapeutic use ("TISSUE ENGINEERED PRODUCTS"). These co-exclusive rights shall be shared with no more that one other licensee and include Sublicensing rights consistent with the AGREEMENT.

Section 5.2 of the AGREEMENT is hereby deleted in its entirety and replaced with the following;

Section 5.2 Milestones and Fees.

(a) Licensee shall pay a patent issue fee of five thousand dollars upon issuance of each U.S. patent COVERED BY this AGREEMENTgr. Such patent issue fee shall only be required for the first five (5) U.S. patents issued. If three (3) or more licensees have rights for distinct and separate fields of use for the same issued patent, at the time the patent issues, the patent issue fee shall be two thousand five hundred dollars ($2,500). Each required payment will be paid to Licensor within thirty (30) days of completion of each milestone listed above.

(b) Licensee shall pay a milestone fee of $225,000 for the first sale of TISSUE ENGINEERED PRODUCTS for Human use. This payment will be paid to Licensor within six (6) months of completion of this milestone.

Except as provided herein or as may be required to effectuate the intent of the parties with respect to the AMENDMENT described herein, the AGREEMENT remains in full force and effective and the parties hereby reaffirm and ratify the terms of the AGREEMENT in their entirety.

IN WITNESS WHEREOF, the parties have executed this AMENDMENT to the AGREEMENT by their respective officers hereunto duly authorized, on the day and year written above.

| | |
|---|---|
| Glycosan BioSystems | University of Utah Research Foundation |
| By: */s/ William P. Tew* | By: */s/ Ray F. Gesteland* |
| Name: William P. Tew, Ph.D | Name: Ray F. Gesteland |
| Title: President & CEO | Title: President |
| Date: May 9, 2006 | Date: May 9, 2006 |

# AMENDMENT TO LICENSE AGREEMENT

This Amendment is made as of February 4, 2008, by and between Glycosan Biosystems, Inc. ("Licensee"), having an address at 675 Arapeen Drive, Suite 302, Salt Lake City, Utah 84108 and the University of Utah Research Foundation, having an address at the Teclmology Commercialization Office, 615 Arapeen Drive, Suite 310, Salt Lake City, UT 84108 ("Licensor") is effective immediately.

## RECITAL

WHEREAS, Licensor and Licensee have previously entered into a license agreement on February 15, 2006, University Control No. 1038 ("Agreement"), with certain inventions, generally characterized as: U-3405 *"In situ* Crosslinkable Synthetic Extracellular Matrices" and U-3656 "Novel Chemical Modifications of Hyaluronan";

WHEREAS, Licensee and Licensor both desire to alter the Agreement in regard to Licensees option to purchase Licensors equity in Glycosan BioSystems, Inc., prior to the second anniversary of the agreement or when the value of Glycosan BioSystems reaches or exceeds one million dollars ($1,000,000), at a set price of $100,000 and Licensors option to redeem equity in Glycosan BioSystems, Inc. at a set price of $150,000, if Licensor still owns equity in Glycoan BioSystems on or after the sixth anniversary of the Agreement.

NOW THEREFORE, for and in consideration of the covenants, conditions and undertakings hereinafter set forth, the parties hereby agree as follows:

## AMENDMENT

1. Article 6 of the Agreement is hereby deleted in its entirety and replaced with the following;

   In consideration of the rights granted to Licensee by Licensor in this Agreement, Licensee will, within twenty one (21) days after execution of this agreement, issue to Licensee fully authorized, fully paid Shares of Stock equaling ten percent (10%) of all outstanding Shares for Glycosan BioSystems, Inc. as of the Effective Date. Thereafter, Licensee shall issue additional Shares to Licensor in order to maintain a ten percent (10%) ownership in Glycosan BioSystems, Inc. until such time as Glycosan BioSystems has reached a valuation of one million dollars ($1,000,000), as assessed by a third party with potential to acquire Licensee, or the second (2) anniversary of the Effective date. Such Shares will be issued in the name of the Licensor and be subject to acceptance by Licensor of the terms and conditions set forth in Licensee's usual and customary Stock Purchase Agreement, and related agreements governing shareholder rights, containing terms and conditions common to all other investors.

2. Ratification of Agreement. Except as provided herein or as may be required to effectuate the intent of the parties with respect to the amendments described in paragraph 1 hereof, the parties hereby reaffirm and ratify the terms of the Agreement in their entirety.

3. Further Assurances. Each of Licensee and Licensor hereby agrees to execute, deliver, verify, acknowledge, and file any and all documents, instruments, or agreements as shall be necessary or appropriate to reflect the intent of the parties with respect to the amendments of the Agreement described herein.

4. Entire Understanding. This Amendment constitutes the entire understanding between the parties hereto with respect to the subject matter hereof, and any modification of this Amendment shall be in writing and shall be signed by a duly authorized representative of each party.

IN WITNESS WEREOF, LICENSOR AND LICENSEE have executed this AGREEMENT by their respective officers hereunto duly authorized, on the day and year hereinafter written.

"LICENSEE"
GLYCOSAN BIOSYSTEMS, INC.

By: */s/ William P. Tew*
(Signature)

Name:William P. Tew, Ph.D.
(Please Print)

Title: President & CEO

Date: February 4, 2008

"LICENSOR"
UNIVERSITY OF UTAH RESEARCH FOUNDATION

By: */s/ John K. Morris*
(Signature)

Name: John K. Morris Esq.
(Please Print)

Title: Secretary

Date: February 4, 2008

# AMENDMENT TO LICENSE AGREEMENT

This Amendment is made as of June 25, 2008, by and between Glycosan Biosystems, Inc. ("Licensee"), having an address at 675 Arapeen Drive, Suite 302, Salt Lake City, Utah 84108 and the University of Utah Research Foundation, having an address at the Technology Commercialization Office, 615 Arapeen Drive, Suite 310, Salt Lake City, UT 84108 ("Licensor") is effective immediately.

## RECITAL

WHEREAS, Licensor and Licensee have previously entered into a license agreement on February 15, 2006, University Control No. 1038 ("Agreement"), with certain inventions, generally characterized as: U-3405 "*In situ* Crosslinkable Synthetic Extracellular Matrices" and U-3656 "Novel Chemical Modifications of Hyaluronan";

WHEREAS, License is interested in acquiring rights to improvements of technology contained in the Agreement, these improvements have been recently developed by the inventor, Glenn Prestwich, and have been disclosed in University of Utah invention disclosure No. U-4406 "Fall-Apart Crosslinkers for Cell Recovery From 3D Environments" and have been filed for patent protection through a provisional patent application submitted on May 9, 2008;

WHEREAS Licensor is willing to amend the Agreement to grant Licensee rights to improvements to technology licensed in the Agreement, these improvements are embodied in the United States provisional patent application No. 61/051,698;

NOW THEREFORE, for and in consideration of the covenants, conditions and undertakings hereinafter set forth, the parties hereby agree as follows:

## AMENDMENT

1. WITNESSETH section of the Agreement is hereby deleted in its entirety and replaced with the following:

   WHEREAS, certain inventions, generally characterized as and assigned University of Utah identification number U-3405, "*In situ* Crosslinkable Synthetic Extracellular Matrices", U-3656, "Novel Chemical Modifications of Hyaluronan" and U-4406 "Fall-Apart Crosslinkers for Cell Recovery From 3D Environments" hereinafter collectively referred to as "the INVENTION", have been made in the course of research at the University of Utah conducted by Glenn Prestwich, Xiao-Zhang Shu, Yi Luo, Kelly Kirker, Jianxing Zhang, Aleksander Skardal and Yanchun Liu and are Covered By Patent Rights (as defined below);

   WHEREAS, Licensor desires that the Patent Rights be developed and utilized to the fullest extent so that their benefits can be enjoyed by the general public;

WHEREAS, Licensee wishes to obtain from Licensor a license under certain rights for the commercial development, production, manufacture, use and sale of the Patent Rights, and Licensor is willing to grant such a license upon the terms and conditions hereinafter set forth;

WHEREAS, the Patent Rights were developed in the course of research sponsored in part by the U.S. Government, and as a consequence are subject to overriding obligations of Licensor to the U.S. Government;

NOW THEREFORE, for and in consideration of the covenants, conditions and undertakings hereinafter set forth, the parties hereby agree as follows:

2. EXHIBIT "A" of the Agreement is hereby deleted in its entirety and replaced with the following:

**EXHIBIT "A"**

**Patent Rights**

| U No. | Matter | Application No. Date of Filing | Title | Inventor(s) |
|---|---|---|---|---|
| U-3405 | 21101.0036U1 Provisional | 60/390,504 6/21/2002 | Disulfide Crosslinked Hyaluronan Hydrogels | Glenn Preswich, Xiao Shu, Yi Luo, Kelly Kirker |
| U-3405 | 21101.0036P1 PCT | PCT/US03/15519 5/15/03 | Crosslinked Compounds and Methods of Making and Using Thereof | Glenn Preswich, Xiao Shu, Yi Luo, Kelly Kirker |
| U-3405 | 21101.0036U2 Nationalized, United States | 10/519,173 12/20/04 | Crosslinked Compounds and Methods of Making and Using Thereof | Glenn Preswich, X iao Shu, Yi Luo, Kelly Kirker |
| U-3405 | 21101.0036CA1 Nationalized, Canada | 2,489,712 5/15/03 | Crosslinked Compounds and Methods of Making and Using Thereof | Glenn Preswich, Xiao Shu, Yi Luo, Kelly Kirker |
| U-3405 | 21101.0036EP1 Nationalized, Europe | 03799796.2 5/15/03 | Crosslinked Compounds and Methods of Making and Using Thereof | Glenn Preswich, Xiao Shu, Yi Luo, Kelly Kirker |
| U-3656 | 21101.0051P1 Provisional | 60/526,797 12/4/2003 | Modified Macromolecules and Methods of Making and Using Thereof | Glenn Prestwich, Xiao Shu |
| U-3656 | 21101.0051U1 PCT | PCT/US04/040726 12/6/2004 | Modified Macromolecules and Methods of Making and Using Thereof | Glenn Prestwich, Xiao Shu |
| U-4406 | 24U03.1-140 Provisional | 61/051,698 05/09/2008 | Fall-Apart Composites and Methods of Use Thereof | Glenn Prestwich, Jianxing Zhang, Aleksander Skardal |

3. Fees. Licensee shall pay to Licensor a non-refundable amendment/license fee of three thousand dollars ($3,000) and back patent costs of three thousand dollars ($3,000), for a total of six thousand dollars ($6,000), three thousand dollars ($3,000) of which is deemed earned and immediately payable upon execution of this Amendment and the remaining three thousand dollars ($3,000) is due six months following the final signature and execution of this Amendment.

4. Ratification of Agreement. Except as provided herein or as may be required to effectuate the intent of the parties with respect to the amendments described in paragraph 1 hereof, the parties hereby reaffirm and ratify the terms of the Agreement in their entirety.

5. Further Assurances. Each of Licensee and Licensor hereby agrees to execute, deliver, verify, acknowledge, and file any and all documents, instruments, or agreements as shall be necessary or appropriate to reflect the intent of the parties with respect to the amendments of the Agreement described herein.

6. Entire Understanding. This Amendment constitutes the entire understanding between the parties hereto with respect to the subject matter hereof, and any modification of this Amendment shall be in writing and shall be signed by a duly authorized representative of each party.

IN WITNESS WEREOF, LICENSOR AND LICENSEE have executed this AGREEMENT by their respective officers hereunto duly authorized, on the day and year hereinafter written.

| | |
|---|---|
| "LICENSEE"<br>GLYCOSAN BIOSYSTEMS, INC. | "LICENSOR"<br>UNIVERSITY OF UTAH RESEARCH FOUNDATION |
| By: */s/ William P. Tew*<br>(Signature) | By: */s/ John K. Morris*<br>(Signature) |
| Name: William P. Tew, Ph.D.<br>(Please Print) | Name: John K. Morris Esq.<br>(Please Print) |
| Title: President & CEO | Title: Secretary |
| Date: June 25, 2008 | Date: July 3, 2008 |

# AMENDMENT TO LICENSE AGREEMENT

This Amendment is made as of March 6, 2009, by and between Glycosan Biosystems, Inc. ("Licensee"), having an address at 675 Arapeen Drive, Suite 302, Salt Lake City, Utah 84108, and the University of Utah Research Foundation, having an address at the Technology Commercialization Office, 615 Arapeen Drive, Suite 310, Salt Lake City, UT 84108 ("Licensor") is effective immediately.

## RECITAL

WHEREAS, Licensor and Licensee have previously entered into a license agreement on February 15, 2006, University Control No. 1038 and amended on May 9, 2006 control No. 1038.A/1051, February 4, 2008 control number 1038.B/1210, and June 25, 2008 control No. 1038.C/1253 ("Agreement"), with certain inventions, generally characterized as: U-3405 "*In situ* Crosslinkable Synthetic Extracellular Matrices", U-3656 "Novel Chemical Modifications of Hyaluronan" and U-4406 "Fall-Apart Crosslinkers for Cell Recovery From 3D Environments";

WHEREAS, Licensee wishes to delay minimum royalties;

WHEREAS Licensor is willing to amend the Agreement to allow Licensee to delay minimum royalties in exchange for an amendment fee;

NOW THEREFORE, for and in consideration of the covenants, conditions and undertakings hereinafter set forth, the parties hereby agree as follows:

## AMENDMENT

1. Section 4.4 of the Agreement is hereby deleted in its entirety and replaced with the following:

4.4 Minimum Royalty. Commencing with the second anniversary of the Effective Date Licensee shall be required to pay to Licensor, within sixty (60) days of the following anniversary of the Effective Date a minimum annual royalty as provided below:

| | | |
|---|---|---|
| YEAR 2 | $ | 7,500 |
| YEAR 3 | $ | 0 |
| YEAR 4 | $ | 0 |
| YEAR 5 | $ | 15,000 |
| YEAR 6 | $ | 22,500 |
| YEAR 7 | $ | 30,000 (and Beyond) |

The total payment shall equal the minimum royalty for that year minus the quarterly royalties paid for that year. If the total quarterly royalty payments in any year exceed the minimum annual royalties for that year, then no minimum payments would be due. Licensee shall continue to pay such minimum annual royalty until the end of the term of the last to expire of Licensor's Patent Rights. Licensor shall fully credit each payment of minimum annual royalties against any earned royalty's payable by Licensee with respect to the year in which the minimum annual royalty is made.

2. Issue Fee. Licensee shall pay to Licensor a non-refundable amendment/license fee of seven thousand five hundred ($7,500) and payable as; $2,500 deemed earned and payable upon execution of this Amendment, $2,500 due January 31, 2010, and $2,500 due January 31, 2011.

3. Ratification of Agreement. Except as provided herein or as may be required to effectuate the intent of the parties with respect to the amendments described in paragraph 1 hereof, the parties hereby reaffirm and ratify the terms of the Agreement in their entirety.

4. Further Assurances. Each of Licensee and Licensor hereby agrees to execute, deliver, verify, acknowledge, and file any and all documents, instruments, or agreements as shall be necessary or appropriate to reflect the intent of the parties with respect to the amendments of the Agreement described herein.

5. Entire Understanding. This Amendment constitutes the entire understanding between the parties hereto with respect to the subject matter hereof, and any modification of this Amendment shall be in writing and shall be signed by a duly authorized representative of each party.

IN WITNESS WEREOF, LICENSOR AND LICENSEE have executed this AGREEMENT by their respective officers hereunto duly authorized, on the day and year hereinafter written.

"LICENSEE"
GLYCOSAN BIOSYSTEMS

By: */s/ William P. Tew*
(Signature)

Name: William P. Tew, PhD

Title: President & CEO

Date: March 19, 2009

"LICENSOR"
UNIVERSITY OF UTAH RESEARCH FOUNDATION

By: */s/ Thomas N. Parks*
(Signature)

Name: Thomas N. Parks

Title: President

Date: March 4, 2009

FIFTH AMENDMENT TO LICENSE AGREEMENT
between
GLYCOSAN BIOSYSTEMS, INC.
and
UNIVERSITY OF UTAH RESEARCH FOUNDATION

This Amendment is made as of December 10, 2009, by and between GLYCOSAN BIOSYSTEMS, INC., having an address at 675 Arapeen Drive, Suite 302, Salt Lake City, Utah 84108, ("Licensee"), and the University of Utah Research Foundation, having an address at the Technology Commercialization Office, 615 Arapeen Drive, Suite 310, Salt Lake City, UT 84108 ("Licensor"), and is effective as of the date first written above.

RECITAL

WHEREAS, Licensor and Licensee have previously entered into a license agreement on February 15, 2006, University Control No. 1038 and amended on May 9, 2006 control No. 1038.A/1051, February 4, 2008 control number 1038.B/1210, June 25, 2008 control No. 1038.C/1253 and 1038.D/1333 ("Agreement"), for certain inventions, generally characterized as: U-3405 "*In situ* Crosslinkable Synthetic Extracellular Matrices", and U-3656 "Novel Chemical Modifications of Hyaluronan" (for purposes of this Amendment, hereinafter "Invention");

WHEREAS, Licensee desires to amend the Agreement to expand the Field of Use for specific patent applications, U-3405, European application 3799796.2, Canadian application 2,489,712 and U-3656, US application 10/581,571, European application 4813101.5, Canadian application 2,549,295, Australian application 2004297231, Japanese application 2006542843;

WHEREAS Licensor is willing to amend the Agreement to expand the Field of Use for the patent applications listed above;

NOW THEREFORE, for and in consideration of the covenants, conditions and undertakings hereinafter set forth, the parties hereby agree as follows:

AMENDMENT

1. Issue Fee. Licensee shall pay to Licensor a non-refundable amendment/license fee of Ten Thousand Dollars ($10,000) deemed payable in two payments of five thousand dollars ($5,000), six (6) months and twelve (12) months following execution of this Amendment.

2. Due Diligence. Licensee shall perform the following due diligence:

   a. Licensee shall secure additional funding which shall be no less than two million dollars ($2,000,000) on or before the first anniversary of this Amendment.

b. Licensee shall initiate safety and toxicology studies of a Licensed Product on or before the first anniversary of this Amendment.

c. Licensee shall engage a Notified Body for a CE Mark in the European Union or submit an IND to the FDA on or before the second anniversary of this Amendment.

d. Licensee shall initiate a clinical trial utilizing a Licensed Product on or before the third anniversary of this Amendment.

3. Section 1.6 of the Agreement is hereby deleted in its entirety and replaced with the following:

> **Field of Use"** shall mean exclusive use all of PATENT RIGHTS, excluding animal therapeutics and animal health, in all countries and territories identified in Exhibit A except that:
>
> within the United States only, **"Field of Use"** shall mean exclusive use all of Patent Rights, excluding human and animal therapeutics, animal health, medical devices and pharmaceutical uses and application. Including but not limited to uses in cosmetics, uses in topical delivery of compounds which are not FDA- regulated therapeutic agents, reagents and platforms for in vitro cell and tissue culture, platforms and services for in vitro drug toxicology and efficacy testing, materials for preserving or extending the useful life of human organs and tissues, in vivo xenograft models using human tissues, and any other uses not specifically excluded and,
>
> within the United States only, **"Field of Use"** shall also mean co-exclusive use of PATENT RIGHTS to products and methods in which living tissue or cells are incorporated outside the body into a polymer platform at a facility other than the point-of-care facility, and the resulting hybrid device is then subsequently implanted in humans for therapeutic use ("TISSUE ENGINEERED PRODUCTS"). These co-exclusive rights shall be shared with no more that one other licensee and include Sublicensing rights consistent with the AGREEMENT.

4. Exhibit A of the Agreement is hereby deleted in its entirety and replaced with the new Exhibit

A attached hereto:

5. Ratification of Agreement. Except as provided herein or as may be required to effectuate the intent of the parties with respect to the amendments described in paragraph 1 hereof, the parties hereby reaffirm and ratify the terms of the Agreement in their entirety.

6. Further Assurances. Each of Licensee and Licensor hereby agrees to execute, deliver, verify, acknowledge, and file any and all documents, instruments, or agreements as shall be necessary or appropriate to reflect the intent of the parties with respect to the amendments of the Agreement described herein.

7. Entire Understanding. This Amendment constitutes the entire understanding between the parties hereto with respect to the subject matter hereof, and any modification of this Amendment shall be in writing and shall be signed by a duly authorized representative of each party.

IN WITNESS WEREOF, LICENSOR AND LICENSEE have executed this AGREEMENT by their respective officers hereunto duly authorized, on the day and year hereinafter written.

| | |
|---|---|
| "LICENSEE"<br>GLYCOSAN BIOSYSTEMS, INC. | "LICENSOR"<br>UNIVERSITY OF UTAH RESEARCH FOUNDATION |
| By: */s/ William P. Tew*<br>(Signature) | By: */s/ Thomas N. Parks*<br>(Signature) |
| Name: William P. Tew, PhD | Name: Thomas N. Parks |
| Title: President & CEO | Title: President |
| Date: December 22, 2009 | Date: December 18, 2009 |

**EXHIBIT "A"**

**Patent Rights**

| University No. | Country/Territory | Application No. | Title | Inventor(s) |
|---|---|---|---|---|
| U-3405 | United States | 12/234,445<br>12/244,135 | Crosslinked Compounds and Methods of Making and Using Thereof | Glenn Preswich, Xiao Shu, Yi Luo, Kelly Kirker |
| U-3405 | European Union | 3799796.2 | Crosslinked Compounds and Methods of Making and Using Thereof | Glenn Preswich, Xiao Shu, Yi Luo, Kelly Kirker |
| U-3405 | Canada | 2,489,712 | Crosslinked Compounds and Methods of Making and Using Thereof | Glenn Preswich, Xiao Shu, Yi Luo, Kelly Kirker |
| U-3656 | United States | 10/581,571 | Modified Macromolecules and Methods of Making and Using Thereof | Glenn Preswich, Xiao Shu, |
| U-3656 | European Union | 4813101.5 | Modified Macromolecules and Methods of Making and Using Thereof | Glenn Preswich, Xiao Shu, |
| U-3656 | Canada | 2,549,295 | Modified Macromolecules and Methods of Making and Using Thereof | Glenn Prestwich, Xiao Shu |
| U-3656 | Australia | 2004297231 | Modified Macromolecules and Methods of Making and Using Thereof | Glenn Prestwich, Xiao Shu |
| U-3656 | Japan | 2006542843 | Modified Macromolecules and Methods of Making and Using Thereof | Glenn Prestwich, Xiao Shu |

SIXTH AMENDMENT TO LICENSE AGREEMENT
between
GLYCOSAN BIOSYSTEMS, INC.
and
UNIVERSITY OF UTAH RESEARCH FOUNDATION

This Amendment is made as of September 22, 2010, by and between GLYCOSAN BIOSYSTEMS, INC., having an address at 675 Arapeen Drive, Suite 302, Salt Lake City, Utah 84108, ("Licensee"), and the University of Utah Research Foundation, having an address at the Technology Commercialization Office, 615 Arapeen Drive, Suite 310, Salt Lake City, UT 84108 ("Licensor"), and is effective as of the date first written above.

RECITAL

WHEREAS, Licensor and Licensee have previously entered into a license agreement on February 15, 2006, University Control No. 1038 and amended on May 9, 2006 control No. 1038.A/1051, February 4, 2008 control number 1038.B/1210, June 25, 2008 control No. 1038.C/1253, March 19,2008 1038.D/1333 and December 22, 2090 control number 1038.E/1405 ("Agreement"), for certain inventions, generally characterized as: U-3405 "*In situ* Crosslinkable Synthetic Extracellular Matrices", and U-3656 "Novel Chemical Modifications of Hyaluronan" (for purposes of this Amendment, hereinafter "Invention");

WHEREAS, Licensee desires to amend the Agreement to alter due diligence items, required in the 5th amendment, December 22, 2090 control number 1038.E/1405, to acknowledge Licensees funding accomplishments, the difficult funding environment to delay by one year the initiation of clinical trials;

WHEREAS Licensor is willing to amend the Agreement to alter the due diligence items applications listed above;

NOW THEREFORE, for and in consideration of the covenants, conditions and undertakings hereinafter set forth, the parties hereby agree as follows:

AMENDMENT

1. Due Diligence. Due Diligence section in amendment 5 is hereby deleted in its entirety and replaced with the following:

   a. Licensee shall secure funding consisting of investment and grants which shall be no less than two million dollars ($2,000,000) on or before January 1, 2011.

   b. Licensee shall initiate safety and toxicology studies of a Licensed Product on or before the first anniversary of this Amendment.

c. Licensee shall engage a Notified Body for a CE Mark in the European Union or submit an IND to the FDA on or before the second anniversary of this Amendment.

d. Licensee shall initiate a clinical trial utilizing Licensed Product or obtain regulatory approval for commercial sale on or before January 1, 2014.

2. Section 1.6 of the Agreement is hereby deleted in its entirety and replaced with the following:

> **Field of Use"** shall mean exclusive use all of PATENT RIGHTS, excluding animal therapeutics and animal health, in all countries and territories identified in Exhibit A except that:
>
> within the United States only, **"Field of Use"** shall mean exclusive of use all of Patent Rights, excluding human and animal therapeutics, animal health, in vivo medical devices and pharmaceutical uses and applications. Including but not limited to in vitro medical devices, uses in cosmetics, uses in topical delivery of compounds which are not FDA-regulated therapeutic agents, reagents and platforms for in vitro cell and tissue culture, including such reagents and platforms that are medical devices, excluding in vivo medical devices, platforms and services for in vitro drug toxicology and efficacy testing, materials for preserving or extending the useful life of human organs and tissues, including such materials that are medical devices, excluding in vivo medical devices, in vivo xenograft models using human tissues, and any other uses not specifically excluded and,
>
> within the United States only, **"Field of Use"** shall also mean co-exclusive use of PATENT RIGHTS to products and methods in which living tissue or cells are incorporated outside the body into a polymer platform at a facility other than the point-of-care facility, and the resulting hybrid device is then subsequently implanted in humans for therapeutic use ("TISSUE ENGINEERED PRODUCTS"). These co-exclusive rights shall be shared with no more that one other licensee and include Sublicensing rights consistent with the AGREEMENT.

3. Ratification of Agreement. Except as provided herein or as may be required to effectuate the intent of the parties with respect to the amendments described in paragraph 1 hereof, the parties hereby reaffirm and ratify the terms of the Agreement in their entirety.

4. Further Assurances. Each of Licensee and Licensor hereby agrees to execute, deliver, verify, acknowledge, and file any and all documents, instruments, or agreements as shall be necessary or appropriate to reflect the intent of the parties with respect to the amendments of the Agreement described herein.

5. Entire Understanding. This Amendment constitutes the entire understanding between the parties hereto with respect to the subject matter hereof, and any modification of this Amendment shall be in writing and shall be signed by a duly authorized representative of each party.

IN WITNESS WEREOF, LICENSOR AND LICENSEE have executed this AGREEMENT by their respective officers hereunto duly authorized, on the day and year hereinafter written.

| | |
|---|---|
| "LICENSEE"<br>GLYCOSAN BIOSYSTEMS, INC. | "LICENSOR"<br>UNIVERSITY OF UTAH RESEARCH FOUNDATION |
| By: */s/ William P. Tew*<br>(Signature) | By: */s/ Thomas N. Parks*<br>(Signature) |
| Name: William P. Tew, PhD | Name: Thomas N. Parks |
| Title: President & CEO | Title: President |
| Date: September 23, 2010 | Date: September 22, 2010 |

SEVENTH AMENDMENT TO LICENSE AGREEMENT
between
GLYCOSAN BIOSYSTEMS, INC.
and
UNIVERSITY OF UTAH RESEARCH FOUNDATION

This Amendment is made as of February 7, 2011, by and between GLYCOSAN BIOSYSTEMS, INC., having an address at 675 Arapeen Drive, Suite 302, Salt Lake City, Utah 84108, ("Licensee"), and the University of Utah Research Foundation, having an address at the Technology Commercialization Office, 615 Arapeen Drive, Suite 310, Salt Lake City, UT 84108 ("Licensor"), and is effective as of the date first written above.

RECITAL

WHEREAS, Licensor and Licensee have previously entered into a license agreement on February 15, 2006 ("License Agreement"), University Control No. 1038 and amended on May 9, 2006 control No. 1038.A/1051, February 4, 2008 control number 1038.B/1210, June 25, 2008 control No. 1038.C/1253, March 19, 2008 1038.D/1333 and December 22, 2009 control number 1038.E/1405 ("Agreement"), for certain inventions, generally characterized as: U-3405 "*In situ* Crosslinkable Synthetic Extracellular Matrices", and U-3656 "Novel Chemical Modifications of Hyaluronan" (for purposes of this Amendment, hereinafter "Invention");

WHEREAS, upon successful completion of a merger between Glycosan BioSystems and Orthocyte, a wholly owned subsidiary of BioTime, Inc., the Licensee desires to assign the License Agreement as amended to BioTime, Inc. and to amend the License Agreement as described below;

WHEREAS Licensor is willing, upon successful completion of the merger, to assign the License Agreement as amended to BioTime, Inc. and further amend the License Agreement as described below;

NOW THEREFORE, for and in consideration of the covenants, conditions and undertakings hereinafter set forth, the parties hereby agree as follows:

AMENDMENT

1. Due Diligence. Due diligence section in the 6th Amendment dated September 22, 2010 is hereby deleted in its entirety and replaced with the following:

   a. Within 90 days of completing the merger between Glycosan and Orthocyte, Licensee shall submit to the University's Technology Commercialization Office a licensed product development plan and shall use commercially reasonable efforts to execute such plan.

2. Section 1 of the 4th Amendment dated March 6, 2009 is hereby deleted in its entirety and replaced with the following:

4.4 Minimum Royalty. Commencing with the second anniversary of the Effective Date (February 15, 2006) Licensee shall be required to pay to Licensor, within sixty (60) days of the following anniversary of the Effective Date, a minimum annual royalty as listed below:

| | | |
|---|---|---|
| YEAR 2 | $ | 7,500 |
| YEAR 3 | $ | 0 |
| YEAR 4 | $ | 0 |
| YEAR 5 | $ | 0 |
| YEAR 6 | $ | 0 |
| YEAR 7 | $ | 15,000 |
| YEAR 8 | $ | 22,500 |
| YEAR 9 | $ | 30,000 (and Beyond) |

The total payment shall equal the minimum royalty for that year minus the quarterly royalties paid for that year. If the total quarterly royalty payments in any year exceed the minimum annual royalty for that year, then no minimum royalty payments would be due.

Licensee shall continue to pay such minimum annual royalty until the end of the term of the last to expire of Licensor's patent rights. Licensor shall fully credit each payment of minimum annual royalties against any earned royalties payable by Licensee with respect to the year in which the minimum annual royalty is made.

3. Assignability. For the merger between Glycosan and Orthocyte only, the Licensor hereby waives the payment of a non-refundable assignment fee as set forth in Article 19, Assignability of the License Agreement, and assigns the License Agreement to BioTime. Further, Article 19 or the License Agreement is replaced in its entirety with the following:

"This Agreement is not assignable or otherwise transferable (including by operation of law, merger, or other business combination) by Licensee without the prior written consent of Licensor, such consent however to not be unreasonably withheld. The failure of Licensee to comply with the terms of this paragraph shall be grounds for termination of the Agreement by Licensor under Article 12. In the event that written consent is provided by Licensor, Licensee will pay a non-refundable fee of thirty thousand dollars ($30,000) if the total transaction value (including cash, in-kind, equity physical assets and other items of value) is less than twenty five million dollars ($25 million), and ninety thousand dollars ($90,000) if the total transaction value exceeds twenty five million dollars ($25 million) upon the consummation of the assignment or transfer."

4. Fees. Within 90 days of the closing of the merger between Glycosan and Orthocyte, the Licensee shall deliver to Licensor a non-refundable amendment/assignment fee consisting of $30,000 in the merger consideration received by Glycosan (BioTime shares and warrants) as se t forth in the Merger Agreement between Glycosan and OrthoCyte. Pursuant to the terms of the Merger Agreement, the value of the BioTime stock will be the 10 day trailing average of the BioTime stock price as listed on Nasdaq on the day preceding the execution of the Merger Agreement and the value of the BioTime warrants will be determined by Black-Scholes calculation of the warrant value on the day preceding execution of the Merger Agreement. Licensee shall also submit, with the assignment fee, a certified capitalization table for Glycosan at the time of the merger indicating BioTime shares and warrants received for Glycosan shares.

5. Ratification of Agreement. Except as provided herein or as may be required to effectuate the intent of the parties with respect to the amendments described in paragraphs 1, 2, and 3 hereof, the parties hereby reaffirm and ratify the terms of the Agreement in their entirety.

6. Further Assurances. Each of Licensee and Licensor hereby agrees to execute, deliver, verify, acknowledge, and file any and all documents, instruments, or agreements as shall be necessary or appropriate to reflect the intent of the parties with respect to the amendments of the Agreement described herein.

7. Entire Understanding. This Amendment constitutes the entire understanding between the parties hereto with respect to the subject matter hereof, and any modification of this Amendment shall be in writing and shall be signed by a duly authorized representative of each party.

IN WITNESS WEREOF, LICENSOR AND LICENSEE have executed this AGREEMENT by their respective officers hereunto duly authorized, on the day and year hereinafter written.

| | |
|---|---|
| "LICENSEE"<br>GLYCOSAN BIOSYSTEMS, INC. | "LICENSOR"<br>UNIVERSITY OF UTAH RESEARCH FOUNDATION |
| By: */s/ William P. Tew*<br>(Signature) | By: */s/ Thomas N. Parks*<br>(Signature) |
| Name:William P. Tew, PhD | Name:Thomas N. Parks |
| Title: President & CEO | Title: President |
| Date: February 10, 2011 | Date: February 8, 2011 |

# EIGHTH AMENDMENT TO LICENSE AGREEMENT

This Amendment is made as of August 10, 2012, by and between Glycosan/ Orthocyte/BioTime, having an address at 1301 Harbor Bay Parkway, Alameda, CA 94502 (“Licensee”), and the University of Utah Research Foundation, having an address at the Technology Commercialization Office, 615 Arapeen Drive, Suite 310, Salt Lake City, UT 84108 (“Licensor”), and is effective as of August 10, 2012. Capitalized terms shall have their meaning as provided in the Agreement (defined below) unless otherwise indicated herein.

## RECITAL

**WHEREAS**, Licensor and Licensee have previously entered into a license agreement on February 15, 2006 ("License Agreement"), University Control No. 1038 and amended on May 9, 2006 control No. 1038.A/1051, February 4, 2008 control number 1038.B/1210, June 25, 2008 control No. 1038.C/1253, March 6,2009 control number 1038.D/1333, December 10, 2009 control number 1038.E/1405, September 23, 2010 control number 1038.F/1495, and February 7, 2011 control number 1038.G/1535 ("Agreement"), for certain inventions, generally characterized as: U-3405 *"In situ* Crosslinkable Synthetic Extracellular Matrices", and U-3656 "Novel Chemical Modifications of Hyaluronan" (for purposes of this Amendment, hereinafter "Invention");

**WHEREAS**, Licensee successfully completed a merger between Glycosan Systems and OrthoCyte, a wholly owned subsidiary of BioTime, Inc., and assigned the License Agreement as amended to BioTime, Inc.;

**WHEREAS**, the Parties, desires to amend the Agreement to expand the definition of Field of Use (section 1.6) and Future Patent Expenses (section 10.1);

**WHEREAS**, Licensor is willing to amend the Agreement.

**NOW THEREFORE**, for and in consideration of the covenants, conditions and undertakings hereinafter set forth, the parties hereby agree as follows:

## AMENDMENT

1. Issue Fee. Licensee shall pay to Licensor a non-refundable, non-creditable amendment/license fee of One Hundred Twenty Thousand Dollars ($120,000) deemed payable in 4 quarterly payments of Thirty Thousand Dollars ($30,000). The first payment is due within ten days of the execution date of this Amendment and the 3 remaining payments of Thirty Thousand Dollars ($30,000) each are due within 10 days of the 3 calendar quarters following the Execution Date. For purposes of this Paragraph 1, “execution date” shall mean the date under Licensor’s signature below.

2. Section 2 of the 7th Amendment dated February 7, 2011 (control number 1038.G/1535) is deleted in its entirety and replaced with the following:

   4.4 Minimum Royalty. Commencing with the second anniversary of the Effective Date (February 15, 2006) Licensee shall pay to Licensor, within sixty (60) days of the following anniversary of the Effective Date, a minimum annual royalty as listed below:

| | | |
|---|---|---|
| YEAR 2 (2008) | $ | 7,500 |
| YEAR 3 (2009) | $ | 0 |
| YEAR 4 (2010) | $ | 0 |
| YEAR 5 (2011) | $ | 0 |
| YEAR 6 (2012) | $ | 0 |
| YEAR 7 (2013) | $ | 0 |
| YEAR 8 (2014) | $ | 22,500 |
| YEAR 9 (2015 and beyond) | $ | 30,000 |

The total payment shall equal the minimum royalty for that year minus the quarterly royalties paid for that year. If the total quarterly royalty payments in any year exceed the minimum annual royalty for that year, then no minimum royalty payments would be due.

Licensee shall continue to pay such minimum annual royalty until the end of the term of the last to expire of Licensor's patent rights. Licensor shall fully credit each payment of minimum annual royalties against any earned royalties payable by Licensee with respect to the year in which the minimum annual royalty is made.

3. Section 2 of the 6th Amendment dated September 23, 2010 (control number 1038.F/1495) is hereby deleted in its entirety and replaced with the following:

**Field of Use"** shall mean all uses, with the exception of veterinary medicine and animal health. The Field of Use includes, but is not limited to, all human therapeutic applications, pharmaceutical applications, all research applications except those related to veterinary medicine and animal health, *in vitro* and *in vivo* medical devices; delivery matrices or scaffolds for cells and tissues for human transplants, tissue engineering and regenerative medicine applications; reagents and platforms for *in vitro* cell and tissue culture; platforms and services for drug toxicology and efficacy testing; materials for preserving or extending the useful life of human organs and tissues; cosmetic and topical delivery of compounds that are not regulated as therapeutic agents by a governmental regulatory body, such as the FDA, and any and all other uses not specifically excluded.

4. "Future Patent Expenses". Section 10.1 of the License Agreement is hereby deleted in its entirety and replaced with the following:

10.1 Future Patent Expenses. Presently, a third party has acquired certain rights to a separate and distinct field of use for certain patent rights identified on amended Exhibit A attached hereto ("Third Party Patent Rights") and is committed to pay a portion of the patent costs for such Third Party Patent Rights. For the duration of the license granted to such third party for the Third Party Patent Rights, Licensee will pay fifty percent (50%) of all costs and expenses for filing, prosecuting, enforcing, and maintaining the Third Party Patent Rights that are licensed to Licensee, including without limitation, any taxes on such Third Party Patent Rights within thirty (30) days of invoice. In the event that this prior license to a third party is terminated, the Field of Use shall automatically be amended to include all fields of use and Licensee will be responsible for all patent costs relating to the Third Party Patent Rights.

For Patent Rights licensed solely to Licensee, Licensee will pay one hundred percent (100%) of all cost and expenses for filing, prosecuting, enforcing, and maintaining the Patent Rights that are licensed to Licensee, including without limitation, any taxes on such Patent Rights within thirty (30) days of invoice.

5. License to Prospective Licensee for Proposed Product. From and after the fifth anniversary of the Effective Date of this amendment, Licensor shall provide written notice to Licensee of any request Licensor receives for an exclusive or non-exclusive license relating to any method or process, composition, product or component part thereof for which rights to the Technology Rights are necessary for manufacture, sale, use, distribution, or as applicable the reproduction, preparation of derivatives of, public performance of, public display of, or other practice of a proposed product or service (a "**Proposed Product**") from any third party that desires to make, use, and sell such Proposed Product (a "**Prospective Licensee**") within fifteen (15) business days of receiving such request. If Licensor fails to provide Licensee with written notice within 15 business days of receipt of a request from a third party the provisions provided below will not apply.

    I. In the event neither Licensee nor any Affiliate or Sublicensee is then developing or commercializing or has plans to develop or commercialize a Licensed Product or Licensed Service for use or sale in the same general industry as proposed by the Prospective Licensee for the Proposed Product, as identified in a report provided to Licensor hereunder, then within sixty (60) days of receipt of the notice by Licensee from Licensor that it desires Licensee to negotiate with the Prospective Licensee for the purpose of granting a sublicense under the Technology Rights to develop and commercialize the Proposed Product within the relevant portion of the Field of Use, Licensee shall elect one of the following options:

        a. Provide Licensor with documentation demonstrating to Licensor's reasonable satisfaction that Licensee, an Affiliate or Sublicensee has initiated commercially reasonable efforts to develop, make, use, sell, distribute, and as applicable reproduce, prepare derivatives of, publicly perform, or publicly display a Licensed Product for use or sale that would commercially compete with the Proposed Product in the same general industry; or

        b. Provide Licensor with written notice that Licensee, an Affiliate or Sublicensee has plans to or will develop plans to initiate commercially reasonable efforts to develop or commercialize a Licensed Product or Licensed Service for use or sale in the same general industry that would commercially compete with the Proposed Product; or

        c. Begin good faith negotiations with the Prospective Licensee to sublicense Licensee's rights in the Technology Rights to the extent necessary for such Prospective Licensee to develop, make, use, sell, distribute, use, and as applicable reproduce, prepare derivatives of, publicly perform, or publicly display such Proposed Product or other Licensed Product in the relevant portion of the Field of Use; or

        d. Grant back to Licensor limited rights in the Technology Rights for the sole purpose of allowing Licensor to license the Technology Rights to the extent necessary for such Prospective Licensee to develop, make, use, sell, distribute, and as applicable reproduce, prepare derivatives of, publicly perform, or publicly display such Proposed Product in the relevant portion of the Field of Use; or

        e. Provide Licensor with written notice demonstrating to Licensor's reasonable satisfaction that the development or commercialization of such Proposed Product would have a reasonable likelihood of materially and adversely affecting the development or commercialization of any Licensed Product or Licensed Service then being developed or commercialized by Licensee, an Affiliate or Sublicensee.

II. If Licensee elects to negotiate with a Prospective Licensee for a sublicense to develop, make, use, sell, distribute, and as applicable reproduce, prepare derivatives of, publicly perform, or publicly display a Proposed Product (or other Licensed Product) as provided for in Section I.(c)., Licensee shall make a good faith effort to complete negotiations with the Prospective Licensee within six (6) months from the date on which it begins negotiations. Upon Licensor's written approval, this six (6) month period shall be extended to the extent Licensee reasonably demonstrates that such extension is reasonable in view of the circumstances. For the purpose of this Section II, Licensee shall have made a good faith effort to complete negotiations if it has offered a sublicense to the Prospective Licensee the terms of which include:

a. Reasonable financial terms taking into account the field in which the sublicense is being offered and Licensee's obligations to Licensor pursuant to this Agreement;

b. Commercially reasonable minimum performance requirements;

c. Non-financial terms which are commercially reasonable;

d. The Licensor and Licensee agree that commercially reasonable terms offered to the Prospective Licensee means terms that cannot be more favorable to the Prospective Licensee than those obtained by Licensee from Licensor.

III. Within thirty (30) days of the end of the six (6) month negotiation period (or as it may be extended under this Section 1 (the "Negotiation Period"), Licensee shall:

a. Provide Licensor a copy of the fully executed sublicense with such Prospective Licensee; or

b. Meet with Licensor representatives and provide documentation of reasons that (A) Licensee and or the Prospective Licensee chose not to proceed with good faith negotiations, or (B) negotiations between Licensee and such Prospective Licensee failed.

IV. In the event that (a) Licensee elects to pursue the option set forth in Section I.(c), and Licensee fails to demonstrate to Licensor's reasonable satisfaction that Licensee has made a good faith effort as required by Section II, or (2) Licensee fails to submit to Licensor a plan to develop a product or service that is essentially equivalent to the product or service of the Prospective Licensee and (b) the Prospective Licensee notifies the Licensor, following the end of the negotiation period, that the Prospective Licensee is willing to license the Technology Rights directly from the Licensor on substantially the same terms previously offered to the Licensee, at the Licensor's election, then this Agreement shall be deemed automatically amended to the extent reasonably necessary to enable the Licensor, and Licensor shall have the right, to negotiate a co-exclusive license to the Technology Rights for the Prospective Licensee, provided however, that the Field of Use for the Technology Rights will not extend beyond that which is necessary for the Prospective Licensee to make, sell, offer to sell, or use its product or services which are not commercially competing with any Licensed Product or Licensed Service of the Licensee.

V. The Licensor and Licensee agree that the dispute resolution terms in the original license agreement will apply to this amendment.

6. Exhibit A in Amendment 6 dated December 10, 2009 (control number 1038.E/1405) is hereby deleted in its entirety and replaced with the new Exhibit A attached hereto.

7. Ratification of Agreement. Except as provided herein or as may be required to effectuate the intent of the parties with respect to the amendments described in paragraph 1 hereof, the parties hereby reaffirm and ratify the terms of the Agreement in their entirety.

8. Further Assurances. Each of Licensee and Licensor hereby agrees to execute, deliver, verify, acknowledge, and file any and all documents, instruments, or agreements as shall be necessary or appropriate to reflect the intent of the parties with respect to the amendments of the Agreement described herein.

9. Entire Understanding. This Amendment constitutes the entire understanding between the parties hereto with respect to the subject matter hereof, and any modification of this Amendment shall be in writing and shall be signed by a duly authorized representative of each party.

IN WITNESS WHEREOF, LICENSOR AND LICENSEE have executed this AGREEMENT by their respective officers hereunto duly authorized, on the day and year hereinafter written.

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|---|---|
| "LICENSEE"<br>**BioTime, Inc.** | "LICENSOR"<br>University of Utah Research Foundation |
| By: */s/ William P. Tew*<br>(Signature) | By: */s/ Thomas N. Parks*<br>(Signature) |
| Name: William P. Tew, PhD<br>(Please Print) | Name: Thomas N. Parks<br>(Please Print) |
| Title: Chief Commercial Officer | Title: President |
| Date: August 13, 2012 | Date: August 20, 2012 |

**Exhibit A**

**Patent Rights**

| University No. | Country/ Territory | Application/ Patent No. | Title | Inventor(s) | Third Party Patent Rights |
|---|---|---|---|---|---|
| U-3405 | United States | 12/234,445 | Crosslinked Compounds and Methods of Making and Using Thereof | Glenn Preswich, Xiao Shu, Yi Luo, Kelly Kirker | Yes |
| U-3405 | United States | 12/244,135 | Crosslinked Compounds and Methods of Making and Using Thereof | Glenn Preswich, Xiao Shu, Yi Luo, Kelly Kirker | Yes |
| U-3405 | European Union | 03799796.2 | Crosslinked Compounds and Methods of Making and Using Thereof | Glenn Preswich, Xiao Shu, Yi Luo, Kelly Kirker | Yes |
| U-3405 | Canada | 2,489,712 | Crosslinked Compounds and Methods of Making and Using Thereof | Glenn Preswich, Xiao Shu, Yi Luo, Kelly Kirker | Yes |
| U-3656 | United States | 7,981,871 | Modified Macromolecules and Methods of Making and Using Thereof | Glenn Preswich, Xiao Shu | Yes |
| U-3656 | United States | 13/184,401 | MODIFIED MACROMOLESCULES AND ASSOCIATED METHODS OF SYNTHESIS AND USE | Glenn Preswich, Xiao Shu | Yes |
| U-3656 | European Union | 04813101.5 | Modified Macromolecules and Methods of Making and Using Thereof | Glenn Preswich, Xiao Shu | Yes |
| U-3656 | Canada | 2,549,295 | Modified Macromolecules and Methods of Making and Using Thereof | Glenn Preswich, Xiao Shu | Yes |
| U-3656 | Australia | 2004297231 | Modified Macromolecules and Methods of Making and Using Thereof | Glenn Preswich, Xiao Shu | Yes |
| U-3656 | Japan | 2006542843 | Modified Macromolecules and Methods of Making and Using Thereof | Glenn Preswich, Xiao Shu | Yes |

**EXCLUSIVE LICENSE AGREEMENT**

dated February 15, 2006

between

**GLYCOSAN BIOSYSTEMS, Inc.**

and

**UNIVERSITY OF UTAH RESEARCH FOUNDATION**

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# LICENSE AGREEMENT

THIS LICENSE Agreement ("AGREEMENT") is entered into this 15th day of February, 2006 by and between the UNIVERSITY OF UTAH RESEARCH FOUNDATION, a Utah non-profit corporation, having its principal place of business at 615 Arapeen Drive, Suite 310, Salt Lake City, UT 84108, hereinafter referred to as "Licensor," and Glycosan BioSystems, Inc., having its principal place of business at PO Box 2321, Park City, UT 84060, hereinafter referred to as "Licensee."

## WITNESSETH

WHEREAS, certain inventions, generally characterized as and assigned University of Utah identification number U-3405, "*In situ* Crosslinkable Synthetic Extracellular Matrices", and U-3656, "Novel Chemical Modifications of Hyaluronan", hereinafter collectively referred to as "the INVENTION", have been made in the course of research at the University of Utah conducted by Glenn Prestwich, Xiao-Zhang Shu, Yi Luo, Kelly Kirker and Yanchun Liu and are Covered By Patent Rights (as defined below);

WHEREAS, Licensor desires that the Patent Rights be developed and utilized to the fullest extent so that their benefits can be enjoyed by the general public;

WHEREAS, Licensee wishes to obtain from Licensor a license under certain rights for the commercial development, production, manufacture, use and sale of the Patent Rights, and Licensor is willing to grant such a license upon the terms and conditions hereinafter set forth;

WHEREAS, the Patent Rights were developed in the course of research sponsored in part by the U.S. Government, and as a consequence are subject to overriding obligations of Licensor to the U.S. Government;

NOW THEREFORE, for and in consideration of the covenants, conditions and undertakings hereinafter set forth, the parties hereby agree as follows:

## ARTICLE l. DEFINITIONS

1.1 **"Affiliate"** means any person or Entity that controls, is controlled by, or is under common control with Licensee, directly or indirectly. For purposes of this definition, "control" and its various inflected forms means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such person or Entity, whether through ownership of voting securities, by contract or otherwise.

1.2 "…**Covered By**…" shall mean a Licensed Product that, when made, used, or sold, or a Licensed Method that, when practiced, would constitute, but for the license granted to Licensee pursuant to this Agreement, an infringement of any claim or claims included within the Patent Rights.

1.3 **"Effective Date"** means the date on which the license issue fee is paid. If such fee is not paid within twenty one (21) days of license execution this Agreement will terminate.

1.4 "**Entity**" means a corporation, an association, a joint venture, a partnership, a trust, a business, an institution, an individual, a government or political subdivision thereof, including an agency, or any other organization that can exercise independent legal standing.

1.5 "**Fair Market Value**" means the cash consideration which Licensee or its Sublicensee would realize from an unAffiliated, unrelated buyer in an arm's length sale of an identical item sold in the same quantity, under the same terms, and at the same time and place.

1.6 **"Field of Use"** shall mean exclusive use all of Patent Rights excluding human and animal therapeutics, animal health, medical devices and pharmaceutical uses and applications.

1.7 "**Insolvent**" means being unable to meet one's debt obligations to another Entity as such debt obligations become due and not being able to provide reasonable financial assurances of becoming able to meet such obligations.

1.8 "**Licensed Method**" shall mean any method, procedure, process or other subject matter, the manufacture, use or sale of which is Covered By any claim or claims included within the Patent Rights.

1.9 "**Licensed Product**" shall mean any product, apparatus, kit or component part thereof, or any other subject matter the manufacture, use or sale of which is Covered By any claim or claims included within the Patent Rights.

1.10 "**Net Sales**" shall mean gross revenue, monies, cash equivalent and/or transfer for any consideration, including revenue neutral remuneration received by Licensee, Affiliates or in the case of a sublicense by Sublicensee (as defined below), for (a) any Licensed Product sold or leased, and (b) services performed using any Licensed Product or Licensed Method, in all cases, net of the sum of the following items directly attributable to the sale of such Licensed Product or Licensed Method and specifically identified on the invoice, and borne by the seller : (1) cash, trade or quantity discounts actually allowed; (2) sales, use, tariff, customs duties or other excise taxes directly imposed upon particular sales; (3) outbound transportation charges prepaid or allowed; and (4) allowances or credits to third parties for rejections or returns. A Licensed Product and services performed using a Licensed Product or Licensed Method shall be considered sold when billed out or invoiced or, if not invoiced, when delivered or performed. There shall be no deductions from Net Sales for costs of commissions or collections.

1.11 "**Patent Rights**" shall mean and include all of the following Licensor intellectual property: The United States patents and/or patent applications listed in Exhibit "A"; United States patents issued from the applications listed in Exhibit "A" and from divisionals and continuations (other than continuations-in-part) of these applications and any reissues of such United States patents; claims of continuation-in-part applications and patents directed to subject matter specifically described in the applications listed in Exhibit "A"; and claims of all foreign applications and patents which are directed to subject matter specifically described in the United States patents and/or patent applications listed in Exhibit "A".

1.12 "**Sublicensee**" means any party other than an Affiliate that enters into an agreement or arrangement with Licensee or receives a license grant from Licensee under the Licensed Patents to manufacture, have manufactured, offer for sale, sell, lease, and/or import the Licensed Product or Licensed Method, subject to the then-current applicable article, item, service, technology, and technical data-specific requirements of the U.S. export laws and regulations.

1.13 **"Sales and Product-Marketing Partner"** shall mean an entity who within three (3) years of the Effective Date, invests in Licensee and receives the right to modify and sale but not make Licensed Product purchased from Licensee.

1.14 "**Territory**" shall mean worldwide, where patent coverage applies.

## ARTICLE 2. LICENSE GRANT

2.1 Exclusive Grant. Subject to the terms and conditions set forth herein, Licensor hereby grants to Licensee a royalty-bearing exclusive license to make, have made, use and sell any Licensed Product and to practice any Licensed Method in the Field of Use under Licensor's Patent Rights throughout the Territory. This grant is subject to the payment by Licensee to Licensor of all consideration required under this Agreement, to any rights of the Government of the United States as set forth in Section 2.2, and is further subject to rights retained by Licensor and University to:

a. publish the general scientific findings from research conducted in whole or in part at the University related to Patent Rights; and

b. manufacture, have manufactured, use, or transfer Patent Rights for research, teaching and other educationally-related purposes

2.2 US Government Grant. The license granted in Section 2.1 hereof is expressly made subject to a non-exclusive, irrevocable, royalty-free license heretofore granted to the U.S. Government and in the general form as attached hereto as Exhibit "B" and incorporated herein by reference.

2.3 Affiliates. Licensee may extend the license granted herein to any Affiliate if the Affiliate consents in writing to be bound by this Agreement to the same extent as Licensee.

2.4 Sublicensing. Licensor hereby grants to Licensee the right to enter into sublicensing agreements to third parties (hereinafter referred to as "Sublicensees") provided that Licensee has current exclusive rights thereto in the Territory being sublicensed pursuant to Section 2.1 and subject to the following:

a. Any sublicense granted by Licensee to a Sublicensee shall incorporate all of the terms and conditions of this Agreement, which shall be binding upon each Sublicensee as if such Sublicensee were a party to this Agreement. Licensee shall collect and guarantee all payments due Licensor from Sublicensees. In each such sublicense, the Sublicensee will be prohibited from granting further sublicenses.

b. If Licensee becomes Insolvent, Licensor's proportionate share of all payments then or thereafter due and owing to Licensee from its Sublicensees for the sublicense of the Patent Rights will, upon notice from Licensor to any such Sublicensee, become payable directly to Licensor; provided however, that Licensor will remit to Licensee the amount by which such payments exceed the amounts owed by Licensee to Licensor.

c. Licensee shall within thirty (30) days of: (a) execution, provide Licensor with a copy of each sublicense granted by Licensee hereunder and any amendments thereto or terminations thereof; and (b) upon receipt, summarize and deliver copies of all reports due to Licensee from Sublicensees.

d. Upon any termination of this Agreement, Sublicensees rights shall at Licensor's option, be (i) assigned to and assumed by Sublicensee, or (ii) terminated.

## ARTICLE 3. TERM OF AGREEMENT

This Agreement shall be in full force and effect from the EFFECTIVE DATE until the end of the term of the last-to-expire of Licensor's Patent Rights licensed under this Agreement unless otherwise terminated by operation of law or by acts of the parties pursuant to the terms of this Agreement.

## ARTICLE 4. FEES & ROYALTIES

4.1 License Issue Fee. Licensee shall pay to Licensor a non-refundable License Issue Fee of ten percent (10%) of all shares outstanding for Glycosan BioSystems, Inc. at the time of execution of this Agreement, which fee is not an advance against earned royalties.

4.2 License Maintenance Fee. Licensee will pay a license maintenance fee, until such time as royalties are paid, in the amount of five thousand dollars ($5,000), due and payable on the first anniversary of the Effective Date.

4.3 Running Royalty. As consideration for the license under this Agreement, Licensee shall pay to Licensor an earned royalty of three percent (3%) of Net Sales. Earned royalties shall accrue in each country for the duration of Patent Rights in that country.

a. If any patent or any claim thereof included within Licensor's Patent Rights shall be found invalid by a court of competent jurisdiction and last resort, from which decision no appeal may be taken, Licensee's obligation to pay Licensor royalties based on such patent or claim or any claim patentably indistinct therefrom shall cease as of the date of such decision. Licensee shall not, however, be relieved from paying Licensor any royalties, fees, expenses, or other liabilities that accrued prior to the date of such decision or that are based on any of Licensor's Patent Rights not the subject of such decision.

4.4 Minimum Royalty. Commencing with the second anniversary of the Effective Date Licensee shall pay to Licensor, within thirty (30) days of each anniversary of the Effective Date a minimum annual royalty as provided below:

| | | |
|---|---|---|
| YEAR 2 | $ | 7,500 |
| YEAR 3 | $ | 15,000 |
| YEAR 4 | $ | 22,500 |
| YEAR 5 | $ | 30,000 (and Beyond) |

Licensee shall continue to pay such minimum annual royalty until the end of the term of the last to expire of Licensor's Patent Rights. Licensor shall fully credit each payment of minimum annual royalties against any earned royalties payable by Licensee with respect to the year in which the minimum annual royalty is made.

4.5 Sublicense Fees and Royalties. In consideration for the sublicense, Licensee shall pay to Licensor thirty percent (30%) of any lump-sum fee or advance payment received by Licensee from any Sublicensee, regardless of how the Licensee and Sublicensee characterizes such payments, including but not limited to license fees, minimum annual royalties, milestone payments, etc. Licensee shall not receive from Sublicensees anything of value in lieu of cash payments in consideration for any sublicense under this Agreement without the express prior written permission of Licensor. In addition, Licensee shall pay to Licensor a royalty on Net Sales made under any sublicense which royalty rate shall be thirty percent (30%) of the royalty rate charged by Licensee on Net Sales by such Sublicensee, and in no event shall the royalty paid to Licensor be reduced to less than one percent of Sublicensee Net Sales.

4.6 Sales and Product-Marketing Agreements. For a period of three (3) years following the Effective Date, Licensee may enter into a sales and product-marketing agreement with a Sales and Product-Marketing Partner. Such agreements may entail an initial fee regarded as an investment into Licensee and an exclusive sales agreement for Licensed Product sold and not royalty revenues. Licensee may retain any initial upfront lump-sum one time fee, not to exceed five million dollars ($5,000,000) with out obligation to Licensor. Licensee shall pay to Licensor a royalty on sales to a Sales and Product-Marketing Partner of five percent (5%) of Net Sales as long as the Sales and Product-Marketing Partner is a customer. Licensee shall within thirty (30) days of execution, provide Licensor with a copy of each agreement with a Marketing and Distribution Partner.

## ARTICLE 5. COMMERCIAL DILIGENCE & MILESTONES

5.1 Commercial Diligence. Upon execution of this Agreement, Licensee shall diligently proceed with the development, manufacture, sale and use of Licensed Products and/or Licensed Methods in order to make them readily available to the general public as soon as possible on commercially reasonable terms. Licensee shall continue active, diligent marketing efforts for one or more Licensed Product(s) and/or Licensed Method(s) throughout the term of this Agreement ("Actively Commercializing"). In addition, Licensee shall perform at least the following obligations as part of its due diligence activities hereunder:

(a) Licensee shall deliver to Licensor within six (6) months from Effective Date, a complete and accurate commercialization plan detailing each phase of development, the target markets and time frames toward first sale of the Licensed Products and Licensed Methods.

(b) Licensee shall submit within eight (8) months from Effective Date, at least one grant application regarding development of technology licensed in this Agreement.

(c) Licensee shall secure within one year from Effective Date office and laboratory space to conduct its business.

(d) Licensee shall spend at least three hundred thousand dollars ($300,000) on research, development and commercialization of Licensed Products and/or Licensed Methods during the two-year period following the date of this Agreement. Included in such expense shall be normal corporate start-up costs including, but not limited to, corporate overhead such as rent, salaries and benefits, insurance, legal, and laboratory and equipment acquisition

(e) Net Sales shall have occurred on or before the second anniversary of the Effective Date.

5.2 Milestones and Fees. Licensee shall pay a patent issue fee of five thousand dollars upon issuance of each U.S. patent Covered By this Agreement. Such patent issue fee shall only be required for the first five (5) U.S. patents issued. If three (3) or more licensees have rights for distinct and separate fields of use for the same issued patent, at the time the patent issues, the patent issue fee shall be two thousand five hundred dollars ($2,500). Each required payment will be paid to Licensor within thirty (30) days of completion of each milestone listed above.

## ARTICLE 6. EQUITY OWNERSHIP

In consideration of the rights granted to Licensee by Licensor in this Agreement, Licensee will, within twenty one (21) days after execution of this agreement, issue to Licensee fully authorized, fully paid Shares of Stock equaling ten percent (10%) of all outstanding Shares for Glycosan BioSystems, Inc. as of the Effective Date. Thereafter, Licensee shall issue additional Shares to Licensor in order to maintain a ten percent (10%) ownership in Glycosan BioSystems, Inc. until such time as Glycosan BioSystems has reached a valuation of one million dollars ($1,000,000), as assessed by a third party with potential to acquire Licensee, or the second (2) anniversary of the Effective date. Such Shares will be issued in the name of the Licensor and be subject to acceptance by Licensor of the terms and conditions set forth in Licensee's usual and customary Stock Purchase Agreement, and related agreements governing shareholder rights, containing terms and conditions common to all other investors. At any time up to and including reaching a one million dollar ($1,000,000) valuation, or prior to the second (2) anniversary of the Effective Date, Licensee may redeem Licensor shares for one hundred thousand dollars ($100,000). If Licensor owns stock on or after the sixth anniversary of the Effective Date, Licensor has the option of receiving from Licensee three (3) annual payments of fifty thousand dollars ($50,000) as payment for Licensor's interest in Glycosan BioSystems, Inc.

## ARTICLE 7. CONFIDENTIALITY

7.1 Confidentiality. Licensee and Licensor acknowledge that either party may provide certain information to the other about the INVENTION that is considered to be confidential. Licensee and Licensor shall take reasonable precautions to protect such confidential information. Such precautions shall involve at least the same degree of care and precaution that the recipient customarily uses to protect its own confidential information.

7.2 GRAMA. Licensee acknowledges that Licensor is subject to the Utah Governmental Records Access and Management Act ("GRAMA"), Section 63-2-101 et seq., Utah Code Ann. (1953), as amended. Licensor shall keep confidential any information provided to Licensor by Licensee that Licensee considers confidential, to the extent allowable under GRAMA and as provided in Section 53B-16-301 et seq., Utah Code Ann. In order to be eligible for such protection under GRAMA, confidential information of Licensee disclosed to Licensor must be in written or other tangible form, marked as proprietary, and accompanied by a written claim by Licensee stating the reasons that such information must be kept confidential.

## ARTICLE 8. QUARTERLY & ANNUAL REPORTS

8.1 Quarterly Royalty Report. Within thirty (30) days after the calendar year in which Net Sales first occur, and within 30 days after each calendar quarter thereafter, Licensee shall provide Licensor with a written report detailing all sales and uses, if any, made of Licensed Products and Licensed Methods during the preceding calendar quarter, and detailing the amount of Net Sales made during such quarter and calculating the royalties due pursuant to Sections 6.1 and 4.3 hereof. Each report shall include at least the following:

a. number of Licensed Products manufactured, leased and sold by and/or for Licensee, Affiliates and all Sublicensees;

b. accounting for all Licensed Methods used or sold by and/or for Licensee, Affiliates and all Sublicensees;

c. accounting for Net Sales, noting the deductions applicable as provided in Section 1.10;

d. royalties due under Section 4.4;

e. running royalties due under Section 4.3 and 4.6;

f. royalties due on other payments from Sublicensees and assignees under Section 4.5;

g. total royalties due;

h. names and addresses of all Sublicensees of Licensee;

i. the amount spent on product development; and

j. the number of full-time equivalent employees working on the Licensed Products and/or Licensed Methods.

Each report shall be in substantially similar form as Exhibit "C" attached hereto. Each such report shall be signed by an officer of Licensee (or the officer's designee). With each such report submitted, Licensee shall pay to Licensor the royalties and fees due and payable under this Agreement. If no royalties shall be due, Licensee shall so report. Licensee's failure to submit a Royalty Report in the required form will constitute a breach of this Agreement. Licensee will continue to deliver Royalty Reports to Licensor after the termination or expiration of this Agreement until such time as all Licensed Product(s) permitted to be sold after termination have been sold or destroyed.

8.2 Progress Report and Commercialization Plan. Commencing on July 1, 2006, and on each January 1 and July 1 thereafter, until the first occurrence of Net Sales and annually thereafter each January 1, Licensee shall submit to Licensor a written report covering Licensee's (and any Sublicensee's) progress in (a) development and testing of all Licensed Products and Licensed Methods; (b) achieving the due diligence milestones specified herein; and (c) preparing, filing, and obtaining of any approvals necessary for marketing the Licensed Products and Licensed Methods and (d) plans for the upcoming year in commercializing the Licensed Product(s). Each report shall be in substantially similar form and contain at least the information required by Exhibit "D" attached hereto and incorporated herein.

8.3 Reporting First Foreign Sales. In addition to the regular reports required by Section 8.1 and 8.2, Licensee shall provide a written report to Licensor of the date of first occurrence of Net Sales in each country within sixty (60) days of its occurrence.

## ARTICLE 9. PAYMENTS, RECORDS AND AUDITS

9.1 Payments. Licensee shall pay all royalties accruing to Licensor in U.S. Dollars, without deduction of exchange, collection, wiring fees, bank fees, or any other charges, within thirty (30) days following the calendar quarter in which Net Sales occur. Each payment will reference U#'s U-3405 and U-3656. All payments to Licensor will be made in United States dollars by wire transfer or check payable to "University of Utah Research Foundation" and sent to:

Technology Commercialization Office
Attn: Accounts Receivable
The University of Utah
615 Arapeen Dr. #310
Salt Lake City, UT 84108

9.2 Late Payments. In the event royalty payments or other fees are not received by Licensor when due hereunder, Licensee shall pay to Licensor interest charges at the rate of twelve percent (12%) per annum on the total royalties or fees due for the reporting period.

9.3 Records. Licensee shall keep, and cause its Sublicensees and Affiliates to keep, complete, true and accurate records and books containing all particulars that may be necessary for the purpose of showing the amounts payable to Licensor hereunder. Records and books shall be kept at Licensee's principle place of business or the principal place of business of the appropriate division of Licensee to which this Agreement relates.

9.4 Audit. Said books and the supporting data shall be open at all reasonable times for five (5) years following the end of the calendar year to which they pertain, to inspection by Licensor or its agents, upon reasonable prior notice to Licensee, for the purpose of verifying Licensee's royalty statement or compliance in other respects with this Agreement. Such access will be available to Licensor upon not less than ten (10) days written notice to Licensee, not more than once each calendar year of the Term, during normal business hours, and once a year for three years after the expiration or termination of this Agreement. Should such inspection lead to the discovery of a greater than five percent (5%) or $5,000 US, discrepancy in reporting to Licensor's detriment, Licensee agrees to pay the full cost of such inspection. Whenever Licensee has its books and records audited by an independent certified public accountant, Licensee will, within thirty (30) days of the conclusion of such audit, provide Licensor with a written statement, certified by said auditor, setting forth the calculation of royalties due to Licensor over the time period audited as determined from the books and records of the Licensee.

## ARTICLE 10. PATENT PROSECUTION AND MAINTENANCE

10.1 Future Patent Expenses. Presently, a third party has acquired rights to a separate and distinct field of use and is committed to pay two thirds (2/3) of the patent costs for the Patent Rights licensed under this Agreement. For the duration of the third party rights, or prior to termination thereof, Licensee will pay for costs forward after the Effective Date, one third of all expenses for filing, prosecuting, enforcing, and maintaining the Patent Rights that are licensed to Licensee, including without limitation, any taxes on such Patent Rights within thirty (30) days of invoice. In the event that subsequent license agreements for separate and distinct fields of use are entered into by Licensor and the prior licensee is still in effect, Licensee and subsequent licensee's shall pay equal shares of the remaining one third (1/3) portion of patent costs. In the event that this prior license fails to continue, Licensee and any subsequent licensee's will equally be responsible for all of patent costs relating to Patent Rights.

10.2 Failure to Pay Patent Expenses. In the event that Licensee fails to pay any patent expenses required under this Agreement within sixty (60) days of receipt of notification that such expenses are due, Licensee will be required within the following thirty (30) days to establish with a leading and first class bank subject to approval by Licensor, an irrevocable and, if so requested by Licensor, confirmed letter of credit (not restricted, unless otherwise agreed upon) in the amount of ten thousand dollars ($10,000) in favor of Licensor available immediately to secure the payment of patent expenses due under this Agreement. Licensor may draw upon such letter of credit upon presentation of the letter notifying Licensee of patent expenses due and payable and a statement from Licensor of Licensee's failure to pay. In the event that Licensee does not establish such letter of credit within such thirty (30) day period, Licensor may terminate this Agreement. Should Licensee decline or fail to pay the costs and legal fees for the preparation, prosecution and maintenance of any patent or patent application under this Agreement, Licensor may at its discretion, either exclude by written notice the patent or patent application from this Agreement without terminating the agreement in its entirety and Licensee shall have no further rights thereto, or Licensor may terminate this Agreement in full pursuant to Section 12.1. Any exclusion pursuant to this section shall not relieve Licensee of any obligation or liability accrued hereunder prior to such exclusion, or rescind or give rise to any right to rescind any payments made or other consideration given to Licensor hereunder prior to the time such exclusion becomes effective. Such exclusion shall not affect in any manner any obligation due Licensor by Licensee arising under this Agreement prior to the date of such exclusion.

10.3 Patent Counsel. Licensor will work closely with Licensee to develop a suitable strategy for the prosecution and maintenance of all Licensed Patents. Licensor will provide copies of documents prepared by patent counsel to Licensee for review and comment prior to filing to the extent practicable under the circumstances. Licensee will be billed and will pay all documented costs and fees and other charges incident to the preparation, prosecution, and maintenance of the Licensed Patents within thirty (30) days of receipt of invoice from the selected patent attorney. All patent applications and patents will be in the name of Licensor, owned by Licensor and included as part of the Patent Rights licensed pursuant to this Agreement.

## ARTICLE 11. PATENT MARKING

Licensee shall permanently and legibly mark all Licensed Products made, used or sold under the terms of this Agreement, or their containers, in accordance with patent notice appropriate under Title 35, United States Code.

## ARTICLE 12. TERMINATION BY LICENSOR

12.1 Licensee Violations. If Licensee should: (a) fail to deliver to Licensor any statement or report required hereunder when due; (b) fail to make any payment at the time that the same should be due; (c) violate or fail to perform any covenant, condition, or undertaking of this Agreement to be performed by it hereunder; (d) cease Actively Commercializing Licensed Product(s); (e) fail to have a Sale of Licensed Product(s) within two (2) years after the Effective Date; or (f) file a bankruptcy action, or have a bankruptcy action against it, or become Insolvent; enter into a composition with creditors, or have a receiver appointed for it; then Licensor may give written notice of such default to Licensee. If Licensee should fail to cure such default within thirty (30) days of such notice, the rights, privileges, and license granted hereunder shall automatically terminate.

12.2 Business Failure. If Licensee shall cease to carry on its business with respect to the rights granted in this Agreement, this Agreement shall terminate upon thirty (30) days written notice by Licensor.

12.3 Obligations After Termination. No termination of this Agreement by Licensor shall relieve Licensee of its obligation to pay any monetary obligation due or owing at the time of such termination and shall not impair any accrued right of Licensor. Licensee shall pay all attorneys' fees and costs incurred by Licensor in enforcing any obligation of Licensee or accrued right of Licensor. Articles 7, 9.2, 9.3, 12.3, 15.2, 15.3, 20, 24, 26, 27 and 28. shall survive any termination of this Agreement.

## ARTICLE 13. TERMINATION BY LICENSEE

13.1 Voluntary Termination. Licensee may terminate this Agreement, in whole or as to any specified patent, at any time and from time to time without cause, by giving written notice thereof to Licensor. Such termination shall be effective forty five (45) days after such notice and all Licensee's rights associated therewith shall cease as of that date

13.2 Obligations After Termination. Any termination pursuant to Section 13.1 shall not relieve Licensee of any obligation or liability accrued hereunder prior to such termination, or rescind or give rise to any right to rescind any payments made or other consideration given to Licensor hereunder prior to the time such termination becomes effective. Such termination shall not affect in any manner any rights of Licensor arising under this Agreement prior to the date of such termination.

## ARTICLE 14. DISPOSITION OF LICENSED PRODUCTS ON HAND

Upon expiration or termination of this Agreement by either party, Licensee shall provide Licensor with a written inventory of all Licensed Products in process of manufacture, in use or in stock. Licensee may dispose of any such Licensed Products within the ninety (90) day period following such expiration or termination, provided, however, that Licensee shall pay royalties and render reports to Licensor thereon in the manner specified herein.

## ARTICLE 15. WARRANTY BY LICENSOR

15.1 Right to License. Licensor warrants that it has the lawful right to grant the license set forth in this Agreement.

15.2 **EXCEPT AS EXPRESSLY PROVIDED IN SECTION 15.1, THE PARTIES ACKNOWLEDGE AND AGREE THAT LICENSOR HAS MADE NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL LICENSOR BE HELD RESPONSIBLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF PATENT RIGHTS, EVEN IF LICENSOR IS ADVISED IN ADVANCE OF THE POSSIBILITY OF SUCH DAMAGES.**

15.3 Limitations. Nothing in this Agreement shall be construed as:

a. a warranty or representation by Licensor as to the validity or scope of any Patent Rights.

b. a warranty or representation by Licensor that anything made, used, sold or otherwise disposed of pursuant to any license granted under this Agreement is or will be free from infringement of intellectual property rights of third parties.

c. an obligation by Licensor to bring or prosecute actions or suits against third parties for patent infringement, except as expressly provided in Article 16 hereof.

d. conferring by implication, estoppel or otherwise any license or rights under any patents of Licensor other than Patent Rights.

15.4 Remedy for Breach of Warranty. Any breach of the representations or warranties made in this Article 15 shall entitle Licensee to a refund of all payments made to Licensor as consideration for the rights granted under this Agreement, and said refund shall be the sole remedy available to Licensee for breach or violation of any provisions contained in this Article 15.

## ARTICLE 16. INFRINGEMENT

16.1 Knowledge of Infringement. If either party learns of a claim of infringement of or by any of Licensor's Patent Rights licensed under this Agreement, that party shall give written notice of such claim to the other party. Licensor shall then use reasonable efforts to terminate such infringement. In the event Licensor fails to abate the infringing activity within ninety (90) days after such written notice or to bring legal action against the third party, Licensee may bring suit for patent infringement. No settlement, consent judgment or other voluntary final disposition of the suit may be entered into without the consent of Licensor, which consent shall not be unreasonably withheld.

16.2 Expense and Proceeds from Legal Action. Any such legal action shall be at the expense of the party by whom suit is filed, hereinafter referred to as the "Litigating Party". Any damages or costs recovered by the Litigating Party in connection with a legal action filed by it hereunder, and remaining under the Litigating Party is reimbursed for its costs and expenses reasonably incurred in the lawsuit, and after any royalties or other payments due to Licensor under Article 4 are paid, shall be equally divided between Licensee and Licensor.

16.3 Cooperation in Litigation Proceedings. Licensee and Licensor shall cooperate with each other in litigation proceedings instituted hereunder, provided that such cooperation shall be at the expense of the Litigating Party, and such litigation shall be controlled by the Litigating Party.

## ARTICLE 17. INSURANCE

17.1 Insurance Requirements. Beginning at the time any Licensed Product is being distributed or Sold (including for the purpose of obtaining any required regulatory approvals) by Licensee or a Sublicensee, Licensee will, at its sole cost and expense, procure and maintain commercial general liability insurance issued by an insurance carrier with an A.M. Best rating of "A" or better in amounts not less than $1,000,000 per incident and $1,000,000 annual aggregate. Licensee will use reasonable efforts to have the Indemnities named as additional insured's. All rights of subrogation will be waived against Licensor and its insurers. Such commercial general liability insurance will provide (i) product liability coverage; (ii) broad form contractual liability coverage for Licensee's indemnification under this Agreement; and (iii) coverage for litigation costs. The specified minimum insurance amounts will not constitute a limitation on Licensee's obligation to indemnify the Indemnities under this Agreement.

17.2 Evidence of Insurance and Notice of Changes. Licensee will provide Licensor with written evidence of such insurance upon request of Licensor. Licensee will provide Licensor with written notice of at least thirty (30) days prior to the cancellation, non-renewal, or material change in such insurance.

17.3 Continuing Insurance Obligations. Licensee will maintain such commercial general liability insurance beyond the expiration or termination of this Agreement during (i) the period that any Licensed Product(s) developed pursuant to this Agreement is being commercially distributed or Sold by Licensee, any Affiliate, or any Sublicensee or agent of Licensee; and (ii) for five (5) years after such period.

## ARTICLE 18. WAIVER

No waiver by either party hereto of any breach or default of any of the covenants or agreements herein set forth shall be deemed a waiver as to any subsequent and/or similar breach or default.

## ARTICLE 19. ASSIGNABILITY

This Agreement is not assignable or otherwise transferable (including by operation of law, merger, or other business combination) by Licensee without the prior written consent of Licensor. The failure of Licensee to comply with the terms of this paragraph shall be grounds for termination of the Agreement by Licensor under Article 12. In the event that written consent is provided by Licensor, Licensee will pay a non-refundable fee of thirty thousand dollars ($30,000) if the total transaction value is less than twenty five million dollars ($25 million), and ninety thousand dollars ($90,000) if the total transaction value exceeds twenty five million dollars ($25 million) upon the consummation of the assignment or transfer.

## ARTICLE 20. INDEMNIFICATION BY LICENSEE

Licensee shall indemnify, hold harmless and defend Licensor, the University of Utah, and their respective officers, employees and agents, against any and all claims, suits, losses, damages, costs, liabilities, fees and expenses (including reasonable fees of attorneys) resulting from or arising out of exercise of: (a) any license granted under this Agreement; or (b) any act, error, or omission of Licensee, its agents, employees or Sublicensees, except where such claims, suits, losses, damages, costs, fees, or expenses result solely from the negligent acts or omissions, or willful misconduct of the Licensor, its officers, employees or agents. Licensee shall give Licensor timely notice of any claim or suit instituted of which Licensee has knowledge that in any way, directly or indirectly, affects or might affect Licensor, and Licensor shall have the right at its own expense to participate in the defense of the same.

## ARTICLE 21. INDEMNIFICATION BY LICENSOR

The Licensor is a governmental entity and is subject to the Utah Governmental Immunity Act, Section 63-30(d)-101 et seq., Utah Code Ann. (the "Act"). Subject to the provision of the Act, Licensor shall indemnify, defend and hold harmless Licensee, its officers, agents and employees against any and all claims, suits, losses, damages, costs, liabilities, fees, and expenses (including reasonable fees of attorneys) resulting solely from the negligent acts or omissions of Licensor, its officers, agents or employees in connection with this Agreement. Nothing in this Agreement shall be construed as a waiver of any rights or defenses applicable to Licensor under the Act, including without limitation, the provisions of Section 63-30(d)-604 regarding limitation of judgments. Licensor shall give Licensee timely notice of any claim or suit instituted of which Licensor has knowledge that in any way, directly or indirectly, affects or might affect Licensee, and Licensee shall have the right at its own expense to participate in the defense of the same.

## ARTICLE 22. NOTICES

Any payment, notice or other communication required or permitted to be given to either party hereto shall be in writing and shall be deemed to have been properly given and effective: (a) on the date of delivery if delivered in person during recipient's normal business hours; or (b) on the date of attempted delivery if delivered by courier, express mail service or first-class mail, registered or certified. Such notice shall be sent or delivered to the respective addresses given below, or to such other address as either party shall designate by written notice given to the other party as follows:

In the case of Licensee:
Glycosan BioSystems, Inc.
PO Box 2321
Park City, UT 84060

In the case of Licensor:
UNIVERSITY OF UTAH RESEARCH FOUNDATION
Technology Commercialization Office
615 Arapeen Drive, Suite 310
Salt Lake City, UT 84108

With a copy to:
OFFICE OF GENERAL COUNSEL
University of Utah
309 Park Building
Salt Lake City, Utah 84112

## ARTICLE 23. REGULATORY COMPLIANCE

23.1 Registration of Agreement. When required by local/national law, Licensee shall register this Agreement, pay all costs and legal fees connected therewith, and otherwise insure that the local/national laws affecting this Agreement are fully satisfied.

23.2 Compliance With U.S. Law. Licensee shall comply with all applicable U.S. laws dealing with the export and/or management of technology or information. Licensee understands that the Arms Export Control Act (AECA), including its implementing International Traffic In Arms Regulations (ITAR,) and the Export Administration Act (EAA), including its Export Administration Regulations (EAR), are some (but not all) of the laws and regulations that comprise the U.S. export laws and regulations. Licensee further understands that the U.S. export laws and regulations include (but are not limited to): (1) ITAR and EAR product/service/data-specific requirements; (2) ITAR and EAR ultimate destination-specific requirements; (3) ITAR and EAR end user-specific requirements; (4) ITAR and EAR end use- specific requirements; (5) Foreign Corrupt Practices Act; and (6) anti-boycott laws and regulations. Licensee will comply with all then-current applicable export laws and regulations of the U.S. Government (and other applicable U.S. laws and regulations) pertaining to the Licensed Prodcust(s) (including any associated products, items, articles, computer software, media, services, technical data, and other information). Licensee certifies that it will not, directly or indirectly, export (including any deemed export), nor re-export (including any deemed re-export) the Licensed Product(s) (including any associated products, items, articles, computer software, media, services, technical data, and other information) in violation of U.S. export laws and regulations or other applicable U.S. laws and regulations. Licensee will include an appropriate provision in its agreements with its authorized Sublicensees to assure that these parties comply with all then-current applicable U.S. export laws and regulations and other applicable U.S. laws and regulations

23.3. Location of Manufacture. Licensee agrees that products used or sold in the United States embodying Licensed Products or produced through use of the Licensed Method shall be manufactured substantially in the United States, unless a written waiver is obtained in advance from Licensor.

## ARTICLE 24. GOVERNING LAW

This Agreement shall be interpreted and construed in accordance with the laws of the State of Utah, without application of any principles of choice of laws.

## ARTICLE 25. RELATIONSHIP OF PARTIES

In assuming and performing the obligations of this Agreement, Licensee and Licensor are each acting as independent parties and neither shall be considered or represent itself as a joint venture, partner, agent or employee of the other.

## ARTICLE 26. USE OF NAMES

26.1 By Licensee. Licensee may use the name “The University of Utah” in factually based materials related to the Licensed Products and the business of the Licensee; provided, however, that Licensee may not use the name of University in connection with any name, brand or trademark related to Licensed Products or Licensed Methods. For example, Licensee may include a statement in promotional materials that refers to the fact that a product or service is based on technology developed at The University of Utah; Licensee may not include The University of Utah in a product or service name.

26.2 By Licensor. Licensor may use Licensee’s name in connection with University’s publicity related to University intellectual property and commercialization achievements.

## ARTICLE 27. DISPUTE RESOLUTION

Except for the right of either party to apply to a court of competent jurisdiction for a temporary restraining order, a preliminary injunction, or other equitable relief to preserve the status quo or prevent irreparable harm, any and all claims, disputes or controversies arising under, out of, or in connection with the Agreement, including but not limited to any dispute relating to patent validity or infringement, which the parties shall be unable to resolve within sixty (60) days shall be mediated in good faith. The party raising such dispute shall promptly advise the other party of such dispute. By not later than five (5) business days after the recipient has received such notice of dispute, each party shall have selected for itself a representative who shall have the authority to bind such party, and shall additionally have advised the other party in writing of the name and title of such representative. By not later than ten (10) days after the date of such notice of dispute, the party against whom the dispute shall be raised shall select a mediator in the Salt Lake City area and such representatives shall schedule a date with such mediator for a hearing. The parties shall enter into good faith mediation and shall share the costs equally. If the representatives of the parties have not been able to resolve the dispute within fifteen (15) business days after such mediation hearing, then any and all claims, disputes or controversies arising under, out of, or in connection with this Agreement, including any dispute relating to patent validity or infringement, shall be resolved through arbitration if the parties mutually consent, or through any judicial proceeding either in the courts of the State of Utah or in the United States District Court for the District of Utah, to whose jurisdiction for such purposes Licensee and Licensor each hereby irrevocably consents and submits. All costs and expenses, including reasonable attorneys' fees, of the prevailing party in connection with resolution of a dispute by arbitration or litigation of such controversy or claim shall be borne by the other party.

## ARTICLE 28. GENERAL PROVISIONS

28.1 The headings of the several sections are inserted for convenience of reference only and are not intended to be a part of or to affect the meaning or interpretation of this Agreement.

28.2 This Agreement shall not be binding upon the parties until it has been signed herein below by or on behalf of each party, and as of the EFFECTIVE DATE.

28.3 No amendment or modification of this Agreement shall be valid or binding upon the parties unless made in writing and signed by both parties.

28.4 This Agreement embodies the entire understanding of the parties and supersedes all previous communications, representations or understandings, either oral or written, between the parties relating to the subject matter thereof.

28.5 The provisions of this Agreement are severable, and in the event that any provision of this Agreement shall be determined to be invalid or unenforceable under any controlling body of the law, such invalidity or unenforceability shall not in any way affect the validity or enforceability of the remaining provisions hereof.

28.6 This Agreement may be signed in counterparts, each of which when taken together shall constitute one fully executed document. Each individual executing this Agreement on behalf of a legal Entity does hereby represent and warrant to each other person so signing that he or she has been duly authorized to execute this Agreement on behalf of such Entity.

28.7 In the event of any litigation, arbitration, judicial reference or other legal proceeding involving the parties to this Agreement to enforce any provision of this Agreement, to enforce any remedy available upon default under this Agreement, or seeking a declaration of the rights of either party under this Agreement, the prevailing party shall be entitled to recover from the other such attorneys' fees and costs as may be reasonably incurred, including the costs of reasonable investigation, preparation and professional or expert consultation incurred by reason of such litigation, arbitration, judicial reference, or other legal proceeding.

IN WITNESS WHEREOF, Licensor and Licensee have executed this Agreement by their respective officers hereunto duly authorized, on the day and year hereinafter written.

| "Licensee" | "Licensor" |
|---|---|
| GLYCOSAN BIOSYSTEMS, Inc. | UNIVERSITY OF UTAH RESEARCH FOUNDATION |
| By */s/ William P. Tew* (Signature) | By */s/ Raymont F. Gesteland* (Signature) |
| Name William P. Tew, Ph.D. (Please Print) | Name Raymond F. Gesteland (Please Print) |
| Title President & CEO | Title President |
| Date February 18, 2006 | Date February 14, 2006 |

**EXHIBIT "A"**

**Patent Rights**

| U No. | Matter | Application No. Date of Filing | Title | Inventor(s) |
|---|---|---|---|---|
| U-3405 | 21101.0036U1 Provisional | 60/390,504 6/21/2002 | Disulfide Crosslinked Hyaluronan Hydrogels | Glenn Preswich, Xiao Shu, Yi Luo, Kelly Kirker |
| U-3405 | 21101.0036P1 PCT | PCT/US03/15519 5/15/03 | Crosslinked Compounds and Methods of Making and Using Thereof | Glenn Preswich, Xiao Shu, Yi Luo, Kelly Kirker |
| U-3405 | 21101.0036U2 Nationalized, United States | 10/519,173 12/20/04 | Crosslinked Compounds and Methods of Making and Using Thereof | Glenn Preswich, Xiao Shu, Yi Luo, Kelly Kirker |
| U-3405 | 21101.0036CA1 Nationalized, Canada | 2,489,712 5/15/03 | Crosslinked Compounds and Methods of Making and Using Thereof | Glenn Preswich, Xiao Shu, Yi Luo, Kelly Kirker |
| U-3405 | 21101.0036EP1 Nationalized, Europe | 03799796.2 5/15/03 | Crosslinked Compounds and Methods of Making and Using Thereof | Glenn Preswich, Xiao Shu, Yi Luo, Kelly Kirker |
| U-3656 | 21101.0051P1 Provisional | 60/526,797 12/4/2003 | Modified Macromolecules and Methods of Making and Using Thereof | Glenn Prestwich, Xiao Shu |
| U-3656 | 21101.0051U1 PCT | PCT/US04/040726 12/6/2004 | Modified Macromolecules and Methods of Making and Using Thereof | Glenn Prestwich, Xiao Shu |

**EXHIBIT "B"**

**LICENSE TO THE UNITED STATES GOVERNMENT**

This instrument confers to the United States Government, as represented by the _____, a non-exclusive, non-transferable, irrevocable, paid-up license to practice or have practiced on its behalf throughout the world the following subject invention. This license will extend to all divisions or continuations of the patent application and all patents or reissues, which may be granted thereon:

Invention Title:

Inventor(s):

Patent Application Serial No.:

Filing Date:

Country, if other than United States:

This subject invention was conceived and/or first actually reduced to practice in performance of a government-funded project, Grant No.: _____

Principal rights to this subject invention have been left with the Licensor: University of Utah Research Foundation, subject to the provisions of 37 CFR 401 and 45 CFR 8.

Signed: _____ Date: _____

Name: Raymond F. Gesteland Title: President

**EXHIBIT "C"**

**Quarterly Report**
**for**

**(title) , U-**

Date: _____

Period Covered: _____

**Royalties**

A. Number of units sold: _____

B. Price per unit: _____

C. Gross sales amount (AxB): _____

D. Deductions:

| | |
|---|---|
| Discounts allowed (case, trade, quantity) | _____ |
| Taxes imposed on sales (sales, use, etc.) | _____ |
| Transportation charges (outbound or prepaid) | _____ |
| Allowances (rejections and returns) | _____ |
| Total Deductions | _____ |

E. Net Sales (C-D): _____

F. Total royalty due (___% of E) _____

G. Total royalty payment made _____

**EXHIBIT "D**

**Due Diligence**
**for**

**(title) , U-**

Date: _____

Period Covering: _____

Progress Regarding Specific Due Diligence Milestones:

_____
_____
_____
_____
_____
_____

Projected Date of First Sale: _____

Please provide the commercial name of any FDA-approved products, utilizing this invention, that have first reached the market during the designated reporting period. This information is necessary for federal funding reporting requirements.

Product Name(s):_____
_____
_____

___Yes ___No In the designated reporting period, did your company or any Sublicensee of the above referenced technology have 500 or more mployees? This information is required to determine and report large or small entity status in the United States.

___Yes ___No In the designated reporting period, did your company or any Sublicensee of the above referenced technology have more than 50 mployees? This information is required to determine and report large or small entity status in Canada.

**Exhibit 10.2**

**AMENDMENT TO**
**SHARE EXCHANGE AND CONTRIBUTION AGREEMENT**

This Amendment is entered into as of September 28, 2012 and amends that certain Share Exchange and Contribution Agreement (the **Agreement**) among LifeMap Sciences, Inc., a California corporation (the **Company**) and Alfred D. Kingsley and Greenway Partners, L.P. (collectively, **Investor**).

1. The definition of Second Outside Date found is Section 1(j) of the Agreement is amended to read: "Second Outside Date" means November 30, 2012.

2. All other terms of the Agreement remain in full force and effect.

IN WITNESS WHEREOF, the parties have executed this Amendment as of the day and year first written above.

LIFEMAP SCIENCES, INC.

By: */s/ Kenneth S. Elsner*

Title: Chief Operating Officer

*/s/ Alfred D. Kinsgley*
Alfred D. Kingsley

Greenway Partners, L.P.

By: Greenhouse Partners, L.P.,
its general partner

By: */s/ Alfred D. Kinsgley*
Alfred D. Kingsley, General Partner

**EXHIBIT 10.3**

***SHARE PURCHASE AGREEMENT***

**BY AND BETWEEN**

**CELL CURE NEUROSCIENCES LTD.**

**and**

**BIOTIME, INC.**

SHARE PURCHASE AGREEMENT

**THIS SHARE PURCHASE AGREEMENT** (this "**Agreement**") is entered into as of the 1st day of November, 2012 (the "**Effective Date**")

**BY AND BETWEEN:**

**CELL CURE NEUROSCIENCES LTD.** a company organized under the laws of the State of Israel, registered under number 51-375239-4 with offices at Kiryat Hadassah, Jerusalem 91121, Israel (the "**Company**"); and

**BIOTIME, INC.**, a California corporation, having its place of business at 1301 Harbor Bay Parkway, Suite 100, Alameda, California 94502, USA ("**BioTime**").

The Company and BioTime shall be hereinafter collectively referred to, in this Agreement, as the "**Parties**"; each one of which also being referred to as a "**Party**".

**RECITALS**

**WHEREAS,** the Company is engaged in the development and exploitation of hES derived neural cells for cell replacement therapy of retinal and neurodegenerative diseases in humans; and

**WHEREAS,** the Company previously issued Ordinary Shares of the Company, par value NIS 0.01 each (the "**Ordinary Shares**") to BioTime and others, pursuant to a Share Purchase Agreement by and among the Company, Teva Pharmaceutical Industries Ltd., HBL-Hadasit Bio-Holdings Ltd. ("**Hadasit**") and BioTime, dated October 7, 2010 (the "**2010 SPA**"); and

**WHEREAS,** the Company wishes to raise capital by means of the issuance of additional Ordinary Shares of the Company; and

**WHEREAS,** BioTime wishes to make an investment in the Company, at a pre money valuation of US$ 15,100,000 (Fifteen Million and One Hundred Thousand US Dollars), on the terms and conditions more fully set forth in this Agreement (the "**Investment**"); and

**WHEREAS,** concurrently with the Investment, Dr. Naomi B Zak ("**Zak**"), a shareholder of the Company, shall be making an investment in cash in the Company in the amount US$5,480 (Five Thousand Four Hundred Eighty US Dollars) at the same price per Ordinary Share as set forth herein (the "**Zak Investment**").

**NOW THEREFORE**, based on the representations contained herein and in consideration of the mutual promises and covenants set forth herein, the Parties agree as follows:

1. **INVESTMENT IN THE COMPANY; PURCHASE OF SHARES**

1.1. Subject to and in accordance with the terms and conditions of this Agreement, at the Closing (as defined below), the Company shall issue to BioTime, and BioTime shall purchase from the Company, 87,456 (Eighty Seven Thousand Four Hundred and Fifty Six) Ordinary Shares of the Company (the "**New Issue Shares**"). The purchase price for each New Issue Share is identical to the price per share pursuant to the 2010 SPA, i.e. US$40.02 (Forty US Dollars and Two cents). The total purchase price that is due to the Company hereunder is US$ 3,499,999.10 (Three Million, Four Hundred and Ninety Nine Thousand, Nine Hundred and Eighty Nine US Dollars and Ten Cents) (the "**Purchase Price**").

1.2. The Purchase Price shall be paid by BioTime to the Company by delivery of that number of shares of freely tradable BioTime common stock which are listed on the NYSE MKT (the "**Traded Stock**") having an aggregate value equal to the Purchase Price, calculated by dividing the Purchase Price by the average closing sales price of a share of BioTime common stock on the NYSE MKT for the ten (10) actual trading days ending on the last actual trading day prior to the Effective Date (it is noted that the NYSE MKT was closed on October 29th and 30th due to adverse weather conditions) (the "**Average Price**"). It is understood and agreed that no fraction of a share of Traded Stock shall be issued to the Company. Rather, BioTime shall round any fraction down to the nearest whole number of shares of Traded Stock and in lieu of such fractional share interest, BioTime shall pay an amount in cash.

1.3. The New Issue Shares issued to BioTime hereunder shall have the same rights and privileges as the Company's existing Ordinary Shares, as set forth in the Third Amended and Restated Articles of Association of the Company, as amended (the "**Amended Articles**") and shall be considered, in all respects and for all purposes, part of the same class of Ordinary Shares.

1.4. The aggregate number of New Issue Shares issuable to BioTime by the Company under this Agreement is equal to 18.26% (Eighteen and Twenty-Six One Hundredths percent) of the share capital of the Company on a fully-diluted basis immediately following the Closing and the closing of the Zak Investment.

2. **THE CLOSING**

2.1. Consummation of the purchase and issuance of the New Issue Shares to BioTime (the "**Closing**") shall take place at 10 am within 3 (three) business days following the date upon which all of the Closing Conditions, as defined below, have been completed (the "**Closing Date**"), at the offices of Baratz & Co. Attorneys-at-Law & Notaries, at 1 Azrieli Center, Round Tower, 18th Floor, Tel-Aviv 67021, Israel, or at such other time, date and place as the Parties shall mutually agree.

2.2. The obligation of BioTime to purchase and pay for the New Issue Shares, and the obligation of the Company to issue the New Issue Shares, shall be conditioned upon (a) the completion of all of the transactions described in the subsections of this Section 2.2, (b) all of the representations and warranties made by each Party herein being true and correct when made and being true and correct in all material respects on and as of the Closing Date as though made on the Closing Date, (c) each Party having performed in all material respects all obligations required of such Party under this Agreement to be performed by it on or before the Closing; and (d) the conditions set out in Section 2.4 below being met (collectively, the "**Closing Conditions**"); provided, however, that the performance of a Party's obligations, and the truthfulness and correctness of the representations and warranties made by a Party to this Agreement, shall not be a Closing Condition with respect to that Party. At the Closing, the following transactions shall take place, all of which shall be deemed to have occurred simultaneously, and none of such transactions shall be deemed to have been completed or any document delivered until all such transactions have been completed and all required documents delivered:

2.2.1. The Company will issue and allot the New Issue Shares to BioTime, and deliver to BioTime a share certificate, evidencing the New Issue Shares duly executed and issued to BioTime by the Company, in the form attached hereto as **Schedule 2.2.1**;

2.2.2. BioTime shall deliver to the Company a stock certificate representing the number of BioTime common shares required to be paid as Traded Stock pursuant to Section 1.2 above or a true copy of the registration of such shares in the name of the Company in the stockholder register of BioTime's stock transfer agent, American Stock Transfer & Trust Company.

2.2.3. The Company shall deliver to BioTime a true and correct copy of a resolution of the Company's shareholders (the "**Shareholders' Resolution**"), substantially in the form attached hereto as **Schedule 2.2.3**, approving, *inter alia*, the execution and performance of this Agreement;

2.2.4. The Company shall deliver to BioTime, a true and correct copy of the resolution of the Board of Directors of the Company (the "**Board**"), substantially in the form attached hereto as **Schedule 2.2.4**, approving, *inter alia*, the execution of this Agreement, the issuance of the New Issue Shares and the transactions contemplated herein;

2.2.5. The Company shall deliver to BioTime, validly executed waivers by or on behalf of all existing shareholders of the Company, substantially in the form attached hereto as **Schedule 2.2.5** with respect to any preemptive rights, first refusal rights, anti-dilution rights, or similar rights such shareholders hold in connection with the transactions contemplated herein, pursuant to the Amended Articles or any applicable law or agreement, unless such rights have lapsed or have been exercised;

2.2.6. The Company shall deliver to BioTime, a compliance certificate, duly executed by the Chief Executive Officer of the Company ("**CEO**"), dated as of the date of the Closing, substantially in the form attached hereto as **Schedule 2.2.6** confirming that all of the representations and warranties made by the Company herein were true and correct when made and are true and correct in all material respects on and as of the Closing Date as though made on the Closing Date, and that the Company has performed in all material respects all obligations required under this Agreement to be performed by it on or before the Closing;

2.2.7. The Company shall register the issuance and the allotment to BioTime of New Issue Shares, in the share register of the Company and shall deliver a copy of the register, in the form of **Schedule 2.2.7**, to BioTime; and

2.2.8. The Company and ES Cell International Pte Ltd. ("**ESI**") shall have entered into the Fourth Amendment to the Exclusive License Agreement between the Company and ESI, dated March 22, 2006, as amended and supplemented (the "**ESI License Agreement**") in the form attached hereto as **Schedule 2.2.8**.

2.3. Immediately following the Closing and in no event later than 14 (fourteen) days after the date of Closing the Company shall (i) make all filings and registrations as may be necessary to perfect the issuance of the New Issue Shares to BioTime upon the Closing and (ii) provide BioTime with a copy of the extract from the Israeli Registrar of Companies' reflecting all of the above filings.

2.4. A condition to Closing for both the Company and BioTime is that the NYSE MKT shall have approved the Traded Stock to be issued at Closing for listing on the exchange.

3. **REPRESENTATIONS AND WARRANTIES OF THE COMPANY**

The Company represents and warrants to BioTime, and acknowledges that BioTime is entering into this Agreement in reliance thereon, as of the date hereof and as of the Closing Date as follows:

3.1. The Company was incorporated on November 20, 2005 as a private company, limited by shares, under Reg. No. 51-375239-4;

3.2. The Company is a company duly organized and validly existing under the laws of Israel and has all requisite corporate power and authority to carry on its business as currently conducted or proposed to be conducted and to own or lease and to operate the properties that it now owns or leases;

3.3. The Company has the legal and/or other right to enter into this Agreement, and this Agreement does not conflict with and/or violate the terms of any other agreement to which the Company is a party;

3.4. The execution and delivery of this Agreement and the performance of Company's obligations hereunder have been duly authorized by all necessary action on the part of the Company, and this Agreement has been duly executed and delivered by, and constitutes a valid and binding agreement of, the Company;

3.5. Subject to the fulfillment of the Closing Conditions, the issuance of the New Issue Shares to BioTime will not be subject to any preemptive rights, rights of first refusal or other preferential or third-party rights that have not been waived;

3.6. The Company is not under any obligation to register any of its shares or other securities;

3.7. The Amended Articles in the form attached hereto as **Schedule 3.7**, are the Articles of Association of the Company in effect on the date hereof and shall not be amended prior to the Closing;

3.8. Immediately prior to the Closing, the authorized share capital of the Company shall consist of NIS 100,000 divided into 10,000,000 (Ten Million) Ordinary Shares, par value NIS 0.01 each, of which 365,427 (Three Hundred Sixty-Five Thousand Four Hundred Twenty-Seven) Ordinary Shares are allotted and issued on the date hereof; **Schedule 3.8** sets forth a true, correct and complete list of the shareholders of the Company and the number of shares issued and outstanding on the date hereof and immediately prior to the Closing;

3.9. The current directors of the Company are Mr. Michael David West, Mr. Alfred Dennis Kingsley, Mr. Robert Peabody, Mr. David Shlachet, Mr. Ophir Shahaf, Dr. Raphael Hofstein and Adv. Mirella Moshe. Other than as set forth in the Amended and Restated Shareholders Agreement (the "**SHA**") and the Amended Articles, the Company has no agreement, obligation or commitment with respect to the election of any individual or individuals to the Board of the Company and there is no voting agreement or other arrangement among the Company's shareholders. There are no agreements, commitments or understandings, whether written or oral, with respect to any compensation to be provided to the Company's directors (in their capacity as such);

3.10. **Schedule 3.10** sets forth a complete list of the shareholders and their shareholdings immediately after the Closing and after the Zak Investment. Except as set forth in **Schedule 3.10**, there are no options, warrants, calls or rights of any kind to purchase or acquire, and no securities convertible into, securities of the Company, and there are no other agreements of any kind or character obligating the Company to issue, transfer or sell any of its capital securities and there is no person or entity (including the Company's shareholders) holding any right whatsoever to receive shares, or other securities or rights, in the Company, whether by virtue of options or by virtue of the holding of convertible securities or by virtue of any other rights whatsoever. As of the Closing, the New Issue Shares will be duly authorized and validly issued, and will be fully paid and non-assessable, and the New Issue Shares will be free and clear of any liens, encumbrances, options and restrictions created by the Company, its shareholders or any third party rights and interests, except as specified in said **Schedule 3.10** or the Amended Articles;

3.11. Subject to the fulfillment of the Closing Conditions, the Company has the necessary power and authority to execute this Agreement, to issue the New Issue Shares and to carry out and perform its obligations hereunder and neither the execution nor the delivery of this Agreement nor the performance by the Company of the terms hereof nor the issuance of the New Issue Shares to BioTime will result in a violation of any provision of law, rule or regulation, or result in a breach of the terms or conditions of, or conflict with or constitute a default under, the Amended Articles of the Company or any agreement, governmental license, order, writ, decree, injunction, judgment or regulatory restriction or obligation to which the Company is party or by which it or its properties or assets are bound or affected, or result in the creation or imposition of a lien, charge, security interest or other encumbrance on the New Issue Shares or the assets or properties of the Company;

3.12. The Company has adopted all resolutions necessary to enter into this Agreement and, subject to the fulfillment of the Closing Conditions, to fulfill its undertakings therein, and in accordance with such resolutions, Dr. Charles Irving has been authorized by the Board to sign this Agreement on behalf of the Company, and other than as set forth in this Agreement, the Company's execution and performance of this Agreement do not require the consent, approval or action of, or any filing with or notice to, any corporation, bank, person, any other third party, firm or any governmental or judicial authority in relation to the transactions contemplated herein;

3.13. Subject to the fulfillment of the Closing Conditions, no person or entity whatsoever has any right of first refusal or other preemption rights of any kind, relating to the issuance of the New Issue Shares to BioTime (or has waived such right); and there exists no hindrance, whether by statute, contract, or otherwise, preventing the Company from entering into this Agreement, and fulfilling its undertakings in terms hereof;

3.14. The Company has delivered to BioTime a copy of its audited annual financial statements as of December 31, 2011 and its unaudited financial statements as of June 30, 2012 (collectively, the "**Financial Statements**"), which Financial Statements are true, correct and complete in all material respects, and which Financial Statements have been prepared in accordance with IFRS consistently applied, and fairly and accurately present in all material respects the financial position of the Company as at such dates and the results of its operations for the periods then ended. Except as set forth in **Schedule 3.14**, as from July 1, 2012 there has not been: (i) any material change in the assets, liabilities, condition (financial or otherwise) or business of the Company; (ii) any damage, destruction or loss, whether or not covered by insurance, materially and adversely affecting the assets, properties, conditions (financial or otherwise), operating results or business of the Company; (iii) any waiver by the Company of a material right or a material debt owed to it; (iv) any satisfaction or discharge of any material lien, material claim or material encumbrance or payment of any material obligation by the Company, except in the ordinary course of business and that is not individually or in the aggregate adverse to the assets, properties, condition (financial or otherwise), operating results or business of the Company; (v) any material change or amendment to a material agreement by which the Company or any of its respective assets or properties is bound or subject; (vi) any material change in any compensation arrangement or agreement with any employee of the Company and payment or increase by the Company of any bonuses, salaries, or other compensation to any shareholder, director, officer, employee or consultant, or entry into any employment, severance, or similar agreement with any director, officer, employee or consultant; (vii) any loans made by the Company to its employees, officers, or directors other than travel advances made in the ordinary course of business; (viii) any sale, transfer or lease of, or mortgage or pledge of imposition of lien on, any of the Company’s assets; (ix) the Company has not incurred any material liabilities, debts or obligations in excess of $20,000 each, whether accrued, absolute or contingent and has no indebtedness for money borrowed in excess of $20,000; (x) any declaration or payment of any dividend or other distribution or payment in respect of shares of the Company; (xi) any change in the accounting methods used by the Company; (xii) any material adverse change in the liabilities, condition (financial or otherwise) or business of the Company from that reflected in the Financial Statements; (xiii) any other event or condition of any character that would materially adversely affect the assets, properties, condition (financial or otherwise), operating results or business of the Company (it being understood and agreed that BioTime is fully apprised of issues that have arisen and the risks inherent to the Company's research and development program, and acknowledges that there cannot be any certainty as to a successful outcome); (xiv) any agreement or commitment by the Company to do any of the things described in this Section 3.14;

3.15. The Company has filed all tax returns and reports (including information returns and reports) as required by law and has paid all taxes and other assessments due, if any. Each such return or report was true and complete in all material respects when filed. None of such returns or reports has been audited by any taxing authority and the Company has not been advised that any of such returns or reports will be audited. Except as set forth in the Financial Statements, since the date of its incorporation, the Company has not incurred any taxes, assessments or governmental charges other than in the ordinary course of business and the Company has made adequate provisions on its books of account for all taxes, assessments and governmental charges with respect to its business, properties and operations for such period. In accordance with information received from employees, and service providers, the Company has withheld or collected from each payment made to each of its employees, or service providers the amount of all taxes required to be withheld or collected therefrom, and has paid the same to the proper tax receiving officers or authorized depositories;

3.16. The Company has no subsidiaries and does not own, directly or indirectly, any capital stock of, or have any direct or indirect equity or ownership interest in, the business of any corporation or entity;

3.17. There is no action, proceeding, or to the best of the Company's knowledge, investigation or inquiry pending or threatened affecting the Company or its assets;

3.18. The Company is not involved in any litigation nor does the Company know of any claim or threat of such litigation before judicial or quasi-judicial instances. The Company has no knowledge of any litigation to which any of its shareholders are party which may have repercussions or any effect on the business of the Company. The Company is not a party to or subject to the provisions of any order, writ, injunction, judgment or decree of any court or governmental agency or instrumentality;

3.19. **Schedule 3.19** hereto contains a complete and correct list and description of the patent rights and technology to which the Company was granted an exclusive license to exploit from ESI pursuant to the ESI License Agreement and the Amended and Restated Research and License Agreement between the Company and Hadasit dated October 7, 2010 (collectively, the "**Licensed IP**"). Save as set forth in **Schedule 3.19**, and to the best of the knowledge of the Company, the Licensed IP and the intellectual property licensed to the Company by Geron Corporation pursuant to the Cross License Agreement of November 24, 2006 contains all intellectual rights and proprietary rights, necessary to enable the Company to carry on its activities as currently conducted. To the best of the knowledge of the Company and without enquiry, the exploitation by Teva of the rights that may be granted to Teva under the Teva Option Agreement shall not infringe any third party intellectual property rights other than potentially those of Wisconsin Alumni Research Foundation ("**WARF**") and Advanced Cell Technology ("**ACT**"). To the best of the knowledge of the Company, licenses from WARF and ACT may be required in order to carry on business in the stem cell field in the USA in general, and in the field of retinal pigment epithelial cells in particular. Except as set forth in **Schedule 3.19**, the Company has not granted, and there are no outstanding licenses or agreements of any kind relating to the Licensed IP, nor is the Company bound by or a party to any option, license or agreement of any kind with respect to the Licensed IP. Except as set forth in **Schedule 3.19**, and to the best of the knowledge of the Company, the Company is not obligated to pay any royalties or other payments to third parties with respect to the use of the Licensed IP or in connection with the conduct of its activities as currently conducted. To the best of the knowledge of the Company, the use of the Licensed IP and the current and proposed conduct of the Company's activities and business do not infringe on any intellectual property rights of any person, and will not infringe on any intellectual property rights of any person other than WARF and/or ACT. To the best of the Company's knowledge, there is no unauthorized use, infringement or misappropriation of the Licensed IP by any third party;

3.20. Save as may be otherwise stipulated in the Restated Hadasit License Agreement, the Product Development Agreement attached thereto and/or in the Additional Research Agreementbetween the Company and Hadasit, dated October 7, 2010 as amended, the Licensed IP and all intellectual property of any kind, which has been developed and is currently being developed by any employee or consultant of the Company in the framework of his/her employment or consultancy with the Company, is and shall be the sole property of the Company. To the best knowledge of the Company, no such agreements have been violated by any employee or consultant, or former employee or consultant, or other person;

3.21. **Schedule 3.21** hereto contains status reports on the Licensed IP, both dated August 16, 2012, prepared by the Company's patent attorneys;

3.22. **Schedule 3.22** attached hereto contains a complete and correct list as of the date hereof of all material contracts to which the Company is a party or by which it or any of its properties is bound (the "**Material Agreements**"). Each Material Agreement is in full force and effect and neither the Company nor, to the best knowledge of the Company, any other party thereto is in breach thereof. Except as set forth in **Schedule 3.22**, the Company has no employment or consulting contracts, deferred compensation agreements or bonus, incentive, profit-sharing, or pension plans currently in force and effect, or any understanding with respect to any of the foregoing. To the Company's best knowledge, no event has occurred or circumstance exists that (with or without notice or lapse of time) contravene, conflict with, or result in a material violation or breach of, or give the Company or any other person the right to declare a default or exercise any remedy under, or to accelerate the maturity or performance of, or to cancel, terminate, or modify, any Material Agreement. Except for the Material Agreements, the Company is not a party to, or bound by, any other agreements, understandings, instruments, contracts, proposed transactions that may involve or relate to (i) obligations (contingent or otherwise) of, or payments to, the Company, exceeding $20,000 each, or (ii) intellectual property rights of the Company and/or the intellectual property rights of any third party, or (iii) product distribution rights, or (iv) provisions restricting or affecting the development, manufacture or distribution of the Company's products or services, or (v) restrictions or limitations on the Company's right to do business or compete in any area or any field with any person, firm or company, or (vi) indemnification by the Company with respect to infringements of proprietary rights; (vii) the issuance of any securities of the Company or any rights in respect thereto or any commitment or understanding in respect of the foregoing, (viii) securities of the Company, including voting or consent agreements with respect to any security of the Company or the voting by any director of the Company, or (ix) loans or credits; or which is otherwise material to the Company;

3.23. Except as set forth in **Schedule 3.23** attached hereto, no officer or director of the Company, or any Affiliate of any such person or the Company, has or has had, either directly or indirectly, (a) an interest in any person or entity which (i) furnishes or sells services or products which are furnished or sold or are proposed to be furnished or sold by the Company, or (ii) purchases from or sells or furnishes to the Company any goods or services, or (b) a beneficial interest in any contract or agreement to which the Company is a party or by which it may be bound or affected. Except as set forth in such schedule, there are no existing arrangements or proposed transactions between the Company and any officer, director, or holder of 5% or more of the share capital of the Company, or to the best knowledge of the Company, any Affiliate or associate of any such person. No employee, shareholder, officer, or director of the Company is indebted to the Company, nor is the Company indebted (or committed to make loans or extend or guarantee credit) to any of them other than advances for travel, salary and other expenses in the Company's ordinary course of business. ("**Affiliate**" means, with respect to any specified person or entity, any other person or entity controlling, controlled by or under common control with such specified person or entity. "**Control**" means, with regard to any entity, the legal, beneficial or equitable ownership, direct or indirect, of fifty percent (50%) or more of the capital stock (or other ownership interest, if not a corporation) of such entity ordinarily having voting rights, or effective control of the activities of such entity regardless of the percentage of ownership);

3.24. The Company has provided BioTime with accurate and complete copies of the minutes of every meeting of the Company's shareholders and Board (and any committee thereof). No other resolutions have been passed, enacted, consented to or adopted by the directors (or any committee thereof) or shareholders of the Company. The corporate records of the Company have been maintained in accordance with all applicable statutory requirements and are complete and accurate in all material respects;

3.25. **Schedule 3.25** attached hereto contains a complete and accurate list of all officers, employees and consultants of the Company (each a "**Representative**"). To the Company's knowledge, none of the Representatives is a party to, or otherwise bound by, any agreement or arrangement (including any confidentiality, non-competition, proprietary rights agreement, licenses, covenants or commitments of any nature), or subject to any Order (as defined below) or any other restriction that adversely affects or will affect the performance of his/her duties as an employee, officer or consultant of the Company or the ability of the Company to conduct its business as currently conducted or proposed to be conducted. To the knowledge of the Company, the carrying on of the Company's business by its Representatives as currently conducted or proposed to be conducted, and the conduct by the Company of its business as currently conducted or proposed to be conducted, will not conflict with or result in a breach of the terms, conditions or provisions of, or constitute a default under, any contract, covenant or instrument under which any of such Representatives of the Company is now obligated. To the knowledge of the Company, no officer or other key employee of the Company intends to terminate its engagement with the Company;

3.26. The Company has not provided any third party guarantees whatsoever, whether to secure the Company's commitments or guarantee the commitments of any other person or entity (including the Company's employees). No guarantees were given by third parties (including by the Company's founders) to secure the Company's commitments to any other or others, which are in force at the date hereof.

3.27. Neither the Company nor, to the Company's knowledge, any of its officers, directors or shareholders, has employed or made any agreement with any broker, finder or similar agent or any person or firm, which will result in the obligation of the Company or BioTime to pay any finder's fee, brokerage fees or commission or similar payment in connection with the transactions contemplated hereby; and

3.28. No representation or warranty by the Company in this Agreement or in any written statement or certificate furnished or to be furnished by the Company to BioTime pursuant to this Agreement contains any untrue statement of a material fact or omits to state a material fact necessary in order to make the statements contained herein or therein in the light of the context in which they are made not misleading. The Company has provided BioTime with all information requested by BioTime.

4. **REPRESENTATIONS AND WARRANTIES OF BIOTIME**

BioTime represents and warrants to the Company, and acknowledges that the Company is entering into this Agreement in reliance thereon, as of the date hereof and as of the Closing, as follows:

4.1. All actions on the part of BioTime necessary for the authorization, execution, delivery, and performance by it of this Agreement and the transactions contemplated herein, have been duly taken to authorize the execution, delivery and performance by it of this Agreement and the transactions contemplated herein, and this Agreement and the transactions contemplated herein are legal, valid, and binding obligations, enforceable as to BioTime in accordance with their terms. The execution, delivery and performance of this Agreement and the transactions contemplated herein do not and will not violate (or result in the violation) or conflict with BioTime's governing internal documents;

4.2. Without derogating from the Company's representations and warranties hereunder, BioTime has spoken to members of the management of the Company, has been afforded with the opportunity to ask questions and has performed independent due diligence. BioTime further acknowledges that, except as otherwise expressly provided for herein, no express or implied warranty, representation or covenant whatsoever has been made by the Company hereunder;

4.3. BioTime has the requisite knowledge and experience in financial and business matters to be capable of evaluating the merits and risks of the investment envisaged under this Agreement, and of investing in the Company, and BioTime acknowledges and represent that such investment may be completely lost, and it is financially able to bear such risk. BioTime understands that the New Issue Shares have not been registered under the securities laws of Israel or of any other state or jurisdiction;

4.4. The execution of this Agreement by BioTime and the performance of its obligations hereunder do not require the consent or agreement of any person, authority or entity which has not been or will not be obtained prior to the date of the Closing, and will not violate any provision of any instrument, judgment, order, writ, decree or contract to which it is party or by which it is bound, or any provision of law, rule or regulation applicable to BioTime which would prevent the execution by BioTime of this Agreement or the performance of its obligations hereunder and thereunder;

4.5. BioTime has not employed nor made any agreement with any broker, finder or similar agent or any person or firm, which will result in the obligation of the Company or BioTime to pay any finder's fee, brokerage fees or commission or similar payment in connection with the transactions contemplated hereby;and

4.6. The Traded Stock to be issued pursuant to this Agreement will not be issued in violation of any preemptive rights of the current or past shareholders of BioTime, or any agreement to which BioTime was or is a party or bound. When issued and delivered in accordance with this Agreement, the Traded Stock shall be (a) duly and validly authorized, issued and outstanding in compliance with all applicable federal or state securities laws, fully paid and non-assessable, (b) listed for trading on the NYSE MKT and (c) free and clear of any liens, claims, charges, rights, pledges, security interests, mortgages, options, title defects or other encumbrances, restrictions or limitations of any nature whatsoever.

4.7. BioTime has filed all reports, schedules, forms, statements and other documents required to be filed by it with the U.S. Securities and Exchange Commission ("**SEC**"), pursuant to the reporting requirements of all applicable federal and securities laws (all of the foregoing that were scheduled to be filed prior to the Closing Date, and all exhibits included therein and financial statements and schedules thereto and documents incorporated by reference therein, are hereinafter referred to as the "**SEC Documents**"). The SEC Documents comply in all material respects with the requirements of all applicable federal and securities laws, rules and regulations. The SEC Documents do not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading with respect to the periods presented.

4.8. Each of the financial statements (including, in each case, any related notes) contained in the SEC Documents, including any SEC Documents filed after the Effective Date until the Closing, complied or will comply as to form in all material respects with the applicable published rules and regulations of the SEC with respect thereto, was prepared in accordance with generally accepted accounting principles applied on a consistent basis throughout the periods involved (except as may be indicated in the notes to such financial statements or, in the case of unaudited statements, as permitted by Form 10-Q of the SEC) and fairly presented the consolidated financial position of BioTime and its subsidiaries as at the respective dates and the consolidated results of its operations and cash flows for the periods indicated, except that the unaudited interim financial statements were or are subject to normal and recurring year-end adjustments which were not or are not expected to be material in amount.

5. **TRADED STOCK PRE-CLOSING AND POST-CLOSING COVENANTS AND ADJUSTMENT**

5.1. BioTime will cause the Traded Stock issuable to the Company pursuant to this Agreement to be authorized for listing on the NYSE MKT.

5.2. If the Traded Stock issued to the Company has not been registered for sale under the Securities Act of 1933, as amended ("Securities Act"), then BioTime will file, as promptly as practicable after the Effective Date, at its own expense, a registration statement on Form S-3 with the SEC to register the Traded Stock under the Securities Act. BioTime shall use commercially reasonable efforts to obtain effectiveness of such registration statement and to keep such registration statement effective until such time as all the Traded Stock registered thereon has been sold or the Company agrees to terminate the registration.

5.3. Should the average price of the Traded Stock during the 10 (ten) trading days commencing on May 1, 2013 increase or decrease above or below the Average Price by more than 15% (fifteen percent), an adjustment shall be made pro rata to the Traded Stock remaining in the Company's possession as of May 1, 2013 up to a maximum of 33% (thirty three percent). The adjustment shall be made, in the case of an increase in the average price of the Traded Stock, via an issuance of additional New Issue Shares to BioTime or, in the case of a decrease in the average price of the Traded Stock, via the issuance of additional Traded Stock to the Company. Increases or decreases in the Average Price of less than 15% (fifteen percent) will not trigger any adjustment. In no event shall the adjustment be more than 33% (thirty three percent). For the sake of illustration, if BioTime purchased New Issue Shares in the Company by way of 100,000 shares of Traded Stock at a Average Price of US$4.50 and on May 1, 2013 the Company still retained the entire 100,000 shares but the average price of the Traded Stock during the 10 (ten) trading days starting on May 1, 2013 fell by 25% (twenty five percent) to US$3.38, then BioTime would be required to issue to the Company an additional 33,136 shares of Traded Stock. Conversely, if BioTime acquired 11,244 New Shares in exchange for 100,000 Traded Shares, and the average price of the Traded Stock for such ten trading days starting on May 1, 2013 increased by 25% from $4.50 to $5.63, the Company would be required to issue to BioTime 2,824 additional New Shares.

5.4. Cantor Fitzgerald & Co., or such other broker-dealer as BioTime may designate in its place, will act as a broker (the "**Broker**") to effect trades of BioTime stock on behalf of BioTime and all of its subsidiaries who hold freely tradable BioTime stock (the "**BioTime Group**"). All determinations to sell Traded Stock shall be made by a committee of the Board, consisting of David Schlahet and Al Kingsley (or any other persons appointed by the Board, by unanimous consent), who shall confer with the CEO and the Company's Chief Financial Officer (the "**CFO**"). All determinations to sell Traded Stock shall be communicated in writing to the Broker by the Company through the CEO or the CFO. The Company acknowledges that if the Broker receives requests to sell BioTime common shares from any member of the BioTime Group while any request to sell BioTime common shares by any other member(s) of the BioTime Group remains open, the Broker may allocate among the members of the BioTime Group seeking to sell shares the number of shares that may offered and sold during any trading day, so as to maintain an orderly market for the BioTime common shares. Such allocation shall be pro rata based on the number of shares that each member of the BioTime Group requests the Broker to sell for its account and the proceeds shall be distributed between such members of the BioTime Group as per the average price attained by the Broker for all of the shares so sold on such trading day.

6. **CONFIDENTIAL INFORMATION; PUBLICATION**

6.1. BioTime agrees that it will keep confidential and will not disclose, divulge or use for any purpose, other than to monitor its investment in the Company, any confidential, proprietary or secret information which BioTime may obtain from the Company regarding its research and development programs or any other information, reports or materials submitted by the Company to BioTime pursuant to this Agreement or pursuant to visitation or inspection rights granted to BioTime pursuant to the SHA ("**Confidential Information**"), unless such Confidential Information is known, or until such Confidential Information becomes known, to the public (other than as a result of a breach of this Section by BioTime); provided, however, that BioTime may disclose Confidential Information (i) to its attorneys, accountants, consultants and other professionals to the extent necessary to obtain their services in connection with monitoring its investment in the Company, (ii) to any prospective purchaser of any New Issue Shares, or other Company shares, from BioTime, as long as such prospective purchaser agrees in writing to be bound by the provisions of this Section, (iii) to any Affiliate of BioTime or to a partner, shareholder or subsidiary of BioTime provided that such person agrees in writing to be bound by the provisions of this Section, or (iv) as may otherwise be required by court order, statute, regulation, or legal disclosure obligation, provided that BioTime informs the Company of any such required disclosure in advance, takes reasonable steps to minimize the extent of any such required disclosure and cooperates with the Company in any challenge by the Company of any such obligation.

6.2. The foregoing restrictions shall not apply to such of the Confidential Information that BioTime can document: (i) at the time of disclosure was publicly available, or after disclosure becomes a part of the public domain through no act or omission by BioTime; (ii) was, prior to the time of disclosure, in BioTime's possession and not subject to any obligation to a third party of non-disclosure, as shown by BioTime's written records; (iii) was subsequently received by BioTime from a third party free of any obligation of non-disclosure imposed on or by the third party; or (iv) was developed by BioTime independently of, and without reference to, Confidential Information.

6.3. The Parties have agreed on the form of a press release which is attached hereto as **Schedule 6.3**, which press release may be issued by the Company and/or BioTime following the date hereof. Thereafter, neither Party shall issue any press release, statement or otherwise make any disclosure related hereto without first providing the other Party with a draft of the proposed disclosure and the opportunity to comment, and the disclosing Party shall strive to implement any comments provided by the other Party. The provisions of this Section 6 shall not apply to any disclosure that is (a) financial reporting, or (b) consistent with a previous press release, statement or disclosure made pursuant to the 2010 SPA or this Section 6.3 by the Company or by BioTime.

## 7. INDEMNIFICATION AND REMEDIES

7.1. In the event of any breach or misrepresentation of any covenant, warranty or representation made by the Company under this Agreement, the Company agrees to protect, defend, indemnify and hold harmless BioTime, its respective officers, employees, directors and partners against any and all loss, liability, deficiency, damage, cost or other expenses (including reasonable legal fees and expenses) (collectively, "**Losses**"), as and when incurred, based upon or arising out of any breach or misrepresentation of any of the representations or warranties of the Company contained in this Agreement.

7.2. In the event of any material breach or misrepresentation of any covenant, warranty or representation made by BioTime under this Agreement or any other provision to this Agreement, BioTime agrees to protect, defend, indemnify and hold harmless the Company, and its respective officers, employees, directors and partners, against any and all Losses, as and when incurred, based upon or arising out of any material breach of any of the representations or warranties of BioTime contained in this Agreement.

7.3. Notwithstanding anything to the contrary herein, the maximum liability of BioTime and the Company to BioTime and the total indemnification by BioTime and/or the Company, as the case may be (the "**Maximum Liability**") shall not exceed the amount of the Purchase Price.

7.4. Promptly after receipt by BioTime or the Company of notice of the commencement of any claim, action, suit, proceeding or investigation in respect of which indemnity may be sought pursuant to this Section 7 ("**Claim**"), such party (the "**Indemnitee**") shall so notify the other party from whom indemnification is sought hereunder (the "**Indemnitor**") in writing, describing in reasonable detail the facts and circumstances upon which the asserted claim for indemnification is based, and shall thereafter keep the Indemnitor reasonably informed with respect thereto. In any event, the Indemnitee shall cooperate with the Indemnitor in the defense of any Claim for which the Indemnitor assumes the defense. The Indemnitor shall have the right to assume the defense of any Claim, at its discretion, with counsel reasonably satisfactory to the Indemnitee, except if, in the opinion of Indemnitee, there is any conflict of interest between the Indemnitee and the Indemnitor. The Indemnitor shall not be liable for the settlement by the Indemnitee of any Claim effected without its consent, which consent shall not be unreasonably withheld. The Indemnitor shall not enter into any settlement of a Claim to which the Indemnitee is a party, unless such settlement includes a general release of the Indemnitee with no payment by the Indemnitee of consideration and without an admission of liability.

7.5. Notwithstanding the foregoing, no claims shall be asserted under this Section 7 unless the aggregate amount claimed is in excess of US$20,000 (Twenty Thousand US Dollars).

7.6. EXCEPT IN THE CASE OF A WILLFUL OR FRAUDULENT MISREPRESENTATION UNDER THIS AGREEMENT, IN NO EVENT SHALL A PARTY BE LIABLE TO THE OTHER PARTY OR TO SUCH PARTY'S AFFILIATES FOR ANY CONSEQUENTIAL, INCIDENTAL, INDIRECT, SPECIAL PUNITIVE OR EXEMPLARY DAMAGES (INCLUDING, WITHOUT LIMITATION, LOST PROFITS, BUSINESS OR GOODWILL) SUFFERED OR INCURRED BY ANY OTHER PARTY, WHETHER BASED UPON A CLAIM OR ACTION OF CONTRACT, WARRANTY, NEGLIGENCE OR TORT, OR OTHERWISE, ARISING OUT OF THIS AGREEMENT.

7.7. Except in the case of fraud or intentional misrepresentation, the indemnification set forth in this Section 7 shall not apply with respect to demands and claims, if such demands or claims were first made after 18 (eighteen) months following the date of the Closing.

8. **MISCELLANEOUS**

8.1. Notices.

All notices or other communications hereunder shall be in writing and shall be given in person, by air delivery service, by registered mail (registered international air mail if mailed internationally) or by facsimile transmission (provided that written confirmation of receipt is provided), addressed as set forth below:

| | |
|---|---|
| If to the Company: | Cell Cure Neurosciences Ltd.<br>Kiryat Hadassah, PO Box 12247<br>Jerusalem 91121, Israel<br>Fax: +972.2.643.7712<br>Attn: Dr. Charles Irving, CEO |
| With a copy to: (which will not constitute notice) | Baratz & Co.<br>1 Azrieli Center<br>Round Tower, 18th Floor<br>Tel Aviv 67021, Israel<br>Fax: +972.3.607.3778<br>Attn: Yael Baratz, Adv. |
| If to BioTime: | BioTime, Inc.<br>1301 Harbor Bay Parkway<br>Suite 100<br>Alameda, California 94502<br>USA<br>Fax: +1.510.521.3389<br>Attn: Dr. Michael D. West, CEO |
| With a copy to: (which will not constitute notice) | Thompson, Welch, Soroko & Gilbert LLP<br>3950 Civic Center Drive<br>Suite 300<br>San Rafael, California 94903<br>USA<br>Fax:+1.415.448-5010<br>Attn: Richard S. Soroko, Esq. |

Or such other address as a Party may designate to the other Party in accordance with the aforesaid procedure.

All notices and other communications delivered in person or by courier or air delivery service shall be deemed to have been delivered as of actual delivery thereof, those given by facsimile transmission shall be deemed delivered on the following business day after transmission with confirmed transmission thereof, and all notices and other communications sent by registered mail (or air mail if the posting is international) shall be deemed given seven (7) days after posting.

8.2. Successors and Assigns

Except as otherwise expressly limited herein, the provisions hereof shall inure to the benefit of, and be binding upon, the successors, assigns, heirs, executors, and administrators of the Parties hereto. None of the rights, privileges, or obligations set forth in, arising under, or created by this Agreement may be assigned without the prior consent in writing of each Party to this Agreement.

8.3. Expenses

Each Party shall bear its own costs and expenses related to the transactions contemplated hereby.

8.4. Delays or Omissions; Waiver

No delay or omission to exercise any right, power, or remedy accruing to either the Company or BioTime, upon any breach or default by the other hereunder, shall impair any such right or remedy nor shall it be construed to be a waiver of any such breach or default, or any acquiescence therein or in any similar breach or default thereafter occurring. Any waiver, permit, consent or approval of any kind or character on any Party's part of any breach, default or noncompliance under this Agreement must be in writing and shall be effective only to the extent specifically set forth in such writing.

8.5. Taxes

Each of the Parties shall bear and pay the taxes and levies imposed on it (if at all) under any law in relation with this Agreement and the transactions contemplated herein.

8.6. Entire Agreement; Amendment

This Agreement (together with the schedules and exhibits attached hereto), contain the entire understanding of the Parties with respect to its subject matter and all prior negotiations, discussions, commitments, representations, covenants and understandings heretofore between them with respect to the matters hereof are merged herein. Nothing in this Agreement, however, shall be construed as derogating from the rights and obligations of the Parties pursuant to the 2010 SPA and the SHA which was attached thereto. Any term of this Agreement may be amended with the written consent of the Company and BioTime. The observance of any term hereof may be waived (either prospectively or retroactively and either generally or in a particular instance) in writing by the Party against which the waiver is sought and shall be effective only to the extent specifically set forth in such writing.

8.7. Counterparts.

This Agreement may be executed in any number of counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument. A Party may enter into this Agreement by signing any such counterpart and each counterpart may be signed and executed by the Parties and transmitted by facsimile or by electronic mail in PDF format and shall be as valid and effective as if executed as an original.

8.8. Governing Law.

This Agreement shall be exclusively governed by and construed in accordance with the laws of the State of Israel, without giving effect to the rules respecting conflict of law. The Parties hereto irrevocably submit to the exclusive jurisdiction of the courts of Tel-Aviv/ Jaffa in respect of any dispute or matter arising out of or connected with this Agreement.

8.9. Further Actions.

At any time and from time to time, each Party agrees, without further consideration, to take such actions and to execute and deliver such documents as may be reasonably necessary to effectuate the purposes of this Agreement.

8.10. Severability.

In case any provision of this Agreement is held invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

8.11. Termination.

Notwithstanding anything to the contrary herein, the Company may terminate this Agreement at any time before the Closing Date if the Closing has not taken place within 6 (six) months of the Effective Date.

*[THE REMAINDER OF THIS PAGE WAS INTENTIONALLY LEFT BLANK]*

**IN WITNESS WHEREOF**, this Agreement has been duly executed on the date herein above set forth.

## CELL CURE NEUROSCIENCES LTD.

By: */s/ Charles Irving*
Name: Dr. Charles Irving
Title: Chief Executive Officer

**BIOTIME, INC.**

By: */s/ Robert W. Peabody*
Name: Robert W. Peabody
Title: Senior Vice President and Chief Operating Officer

**Schedules**

| Schedule | Description |
|---|---|
| 2.2.1 | Cell Cure Share Certificate |
| 2.2.3 | Cell Cure Shareholders Resolution |
| 2.2.4 | Cell Cure Board of Directors Resolution |
| 2.2.5 | Shareholder waivers |
| 2.2.6 | Compliance certificate |
| 2.2.7 | Share register |
| 2.2.8 | Amendment to ESI License Agreement |
| 3.7 | Amended Articles of Association |
| 3.8 | List of Shareholders |
| 3.10 | Post-closing Shareholder List |
| 3.14 | Changes in financial data |
| 3.19 | Licensed patents |
| 3.21 | Patent attorney report |
| 3.22 | Material Agreements |
| 3.23 | Transactions with officers and directors or in which they have an interest |
| 3.25 | List of officers, employees, and consultants |
| 6.3 | Draft press release |

**Exhibit 31**

**CERTIFICATIONS**

I, Michael D. West, certify that:

1. I have reviewed this quarterly report on Form 10-Q of BioTime, Inc.

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rule 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which the periodic reports are being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.

5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 9, 2012

*/s/ Michael D. West*

Michael D. West
Chief Executive Officer

**Exhibit 31**

**CERTIFICATIONS**

I, Peter S. Garcia, certify that:

1. I have reviewed this quarterly report on Form 10-Q of BioTime, Inc.

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rule 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which the periodic reports are being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.

5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 9, 2012

*/s/ Peter S. Garcia*

Peter S. Garcia
Chief Financial Officer

**Exhibit 32**

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of BioTime, Inc. (the "Company") for the quarter ended September 30, 2012 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), we, Michael D. West, Chief Executive Officer, and Peter S. Garcia, Chief Financial Officer of the Company, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 9, 2012

*/s/ Michael D. West*
Michael D. West
Chief Executive Officer

*/s/ Peter S. Garcia*
Peter S. Garcia
Chief Financial Officer