

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

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

For the quarterly period ended **March 31, 2010**

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

Commission file number: **000-51476**

LIXTE BIOTECHNOLOGY HOLDINGS, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

20-2903526
(I.R.S. Employer
Identification Number)

248 Route 25A, No. 2
East Setauket, New York 11733
(Address of principal executive offices)

(631) 942-7959
(Registrant's telephone number, including area code)

Not applicable
(Former name, former address and former fiscal year, if changed since last report)

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. Yes No

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer (as defined in Rule 12b-2 of the Exchange Act).

Large accelerated filer
Non-accelerated filer

Accelerated filer
Smaller reporting company

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

As of April 30, 2010, the Company had 35,077,178 shares of common stock, \$0.0001 par value, issued and outstanding.

Documents incorporated by reference: None

LIXTE BIOTECHNOLOGY HOLDINGS, INC.

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Forward-Looking Statements

This Quarterly Report on Form 10-Q contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, and Section 21E of the Securities Exchange Act of 1934. For example, statements regarding the Company's financial position, business strategy and other plans and objectives for future operations, and assumptions and predictions about future product demand, supply, manufacturing, costs, marketing and pricing factors are all forward-looking statements. These statements are generally accompanied by words such as "intend," "anticipate," "believe," "estimate," "potential(ly)," "continue," "forecast," "predict," "plan," "may," "will," "could," "would," "should," "expect" or the negative of such terms or other comparable terminology. The Company believes that the assumptions and expectations reflected in such forward-looking statements are reasonable, based on information available to it on the date hereof, but the Company cannot provide assurances that these assumptions and expectations will prove to have been correct or that the Company will take any action that the Company may presently be planning. However, these forward-looking statements are inherently subject to known and unknown risks and uncertainties. Actual results or experience may differ materially from those expected or anticipated in the forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, regulatory policies, available cash, research results, competition from other similar businesses, and market and general economic factors. This discussion should be read in conjunction with the condensed consolidated financial statements and notes thereto included in Item 1 of this Quarterly Report on Form 10-Q.

PART I - FINANCIAL INFORMATION

ITEM 1. CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

**LIXTE BIOTECHNOLOGY HOLDINGS, INC.
AND SUBSIDIARY**
(a development stage company)

CONDENSED CONSOLIDATED BALANCE SHEETS

	March 31, 2010	December 31, 2009
	(Unaudited)	
ASSETS		
Current assets:		
Cash	\$ 329,123	\$ 1,543,991
Money market funds	2,075,042	25,000
Advances on research and development contract services	32,530	5,000
Prepaid expenses and other current assets	21,229	27,354
Total current assets	\$ 2,457,924	\$ 1,601,345
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable and accrued expenses	\$ 104,202	\$ 83,546
Research and development contract liabilities	56,031	50,000
Liquidated damages payable under registration rights agreement	74,000	74,000
Due to stockholder	92,717	92,717
Total current liabilities	326,950	300,263
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, \$0.0001 par value; authorized - 10,000,000 shares; issued – None	—	—
Common stock, \$0.0001 par value; authorized - 100,000,000 shares; issued and outstanding - 35,077,178 shares and 30,502,178 shares at March 31, 2010 and December 31, 2009, respectively	3,508	3,050
Advances under equity financing	—	1,200,000
Additional paid-in capital	7,527,253	5,147,583
Deficit accumulated during the development stage	(5,399,787)	(5,049,551)
Total stockholders' equity	2,130,974	1,301,082
Total liabilities and stockholders' equity	\$ 2,457,924	\$ 1,601,345

See accompanying notes to condensed consolidated financial statements.

**LIXTE BIOTECHNOLOGY HOLDINGS, INC.
AND SUBSIDIARY**
(a development stage company)

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS (Unaudited)

	Three Months Ended March 31,		Period from August 9, 2005 (Inception) to March 31, 2010 (Cumulative)
	2010	2009	
Revenues	\$ —	\$ —	\$ —
Costs and expenses:			
General and administrative costs, including \$72,740, \$37,514 and \$2,164,551 of stock-based compensation costs for the three months ended March 31, 2010 and 2009, and the period from August 9, 2005 (inception) to March 31, 2010 (cumulative), respectively	188,579	153,119	3,358,313
Depreciation	—	127	1,910
Research and development costs, including \$19,888, \$39,862 and \$416,718 of stock-based costs for the three months ended March 31, 2010 and 2009, and the period from August 9, 2005 (inception) to March 31, 2010 (cumulative), respectively	161,872	125,878	1,939,177
Reverse merger costs	—	—	50,000
Total costs and expenses	<u>350,451</u>	<u>279,124</u>	<u>5,349,400</u>
Loss from operations	(350,451)	(279,124)	(5,349,400)
Interest income	215	7	26,082
Interest expense	—	(452)	(2,469)
Liquidated damages under registration rights agreement	—	—	(74,000)
Net loss	<u>\$ (350,236)</u>	<u>\$ (279,569)</u>	<u>\$ (5,399,787)</u>
Net loss per common share – basic and diluted	<u>\$ (0.01)</u>	<u>\$ (0.01)</u>	
Weighted average common shares outstanding – basic and diluted	<u>33,693,845</u>	<u>28,374,845</u>	

See accompanying notes to condensed consolidated financial statements.

**LIXTE BIOTECHNOLOGY HOLDINGS, INC.
AND SUBSIDIARY**
(a development stage company)

CONDENSED CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY (DEFICIENCY)

Period from August 9, 2005 (Inception) to March 31, 2010

	Common Stock		Advances Under Equity Financing	Additional Paid-in Capital	Deficit Accumulated During the Development Stage	Total Stockholders' Equity (Deficiency)
	Shares	Amount				
Balance, August 9, 2005 (inception)	—	\$ —	\$ —	\$ —	\$ —	\$ —
Shares issued to founding Stockholder	19,021,786	1,902	—	(402)	—	1,500
Net loss	—	—	—	—	(16,124)	(16,124)
Balance, December 31, 2005	19,021,786	1,902	—	(402)	(16,124)	(14,624)
Shares issued in connection with reverse merger transaction	4,005,177	401	—	62,099	—	62,500
Shares issued in private placement, net of offering costs	3,555,220	355	—	969,017	—	969,372
Stock-based compensation costs	—	—	—	97,400	—	97,400
Net loss	—	—	—	—	(562,084)	(562,084)
Balance, December 31, 2006	26,582,183	2,658	—	1,128,114	(578,208)	552,564
Shares issued in private placement, net of offering costs	999,995	100	—	531,220	—	531,320
Stock-based compensation costs	250,000	25	—	890,669	—	890,694
Stock-based research and development costs	—	—	—	50,836	—	50,836
Net loss	—	—	—	—	(1,648,488)	(1,648,488)
Balance, December 31, 2007	27,832,178	2,783	—	2,600,839	(2,226,696)	376,926
Stock-based compensation costs	—	—	—	357,987	—	357,987
Stock-based research and development costs	100,000	10	—	213,051	—	213,061
Net loss	—	—	—	—	(1,271,522)	(1,271,522)
Balance, December 31, 2008	27,932,178	2,793	—	3,171,877	(3,498,218)	(323,548)
Shares issued in private placements, net of offering costs	2,420,000	242	—	1,096,808	—	1,097,050
Advances under equity financing	—	—	1,200,000	—	—	1,200,000
Stock-based compensation costs	150,000	15	—	745,965	—	745,980
Stock-based research and development costs	—	—	—	132,933	—	132,933
Net loss	—	—	—	—	(1,551,333)	(1,551,333)
Balance, December 31, 2009	30,502,178	3,050	1,200,000	5,147,583	(5,049,551)	1,301,082
Shares issued in private placements, net of offering costs	4,575,000	458	(1,200,000)	2,287,042	—	1,087,500
Stock-based compensation costs	—	—	—	72,740	—	72,740
Stock-based research and development costs	—	—	—	19,888	—	19,888
Net loss	—	—	—	—	(350,236)	(350,236)
Balance, March 31, 2010 (Unaudited)	<u>35,077,178</u>	<u>\$ 3,508</u>	<u>\$ —</u>	<u>\$ 7,527,253</u>	<u>\$ (5,399,787)</u>	<u>\$ 2,130,974</u>

See accompanying notes to condensed consolidated financial statements.

**LIXTE BIOTECHNOLOGY HOLDINGS, INC.
AND SUBSIDIARY**
(a development stage company)

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (Unaudited)

	Three Months Ended March 31,		Period from August 9, 2005 (Inception) to March 31, 2010 (Cumulative)
	2010	2009	
Cash flows from operating activities:			
Net loss	\$ (350,236)	\$ (279,569)	\$ (5,399,787)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation	—	127	1,909
Stock-based compensation costs	72,740	37,514	2,164,551
Stock-based research and development costs	19,888	39,862	416,718
Changes in operating assets and liabilities:			
(Increase) decrease in -			
Advances on research and development contract services	(27,530)	6,250	(32,530)
Prepaid expenses and other current assets	6,125	6,580	(21,229)
Increase (decrease) in -			
Accounts payable and accrued expenses	20,656	(16,586)	104,202
Liquidated damages payable under registration rights agreement	—	—	74,000
Research and development contract liabilities	6,031	—	56,031
Net cash used in operating activities	(252,326)	(205,822)	(2,636,135)
Cash flows from investing activities:			
Increase in money market funds	(2,050,042)	—	(2,075,042)
Purchase of office equipment	—	—	(1,909)
Net cash used in investing activities	(2,050,042)	—	(2,076,951)
Cash flows from financing activities:			
Proceeds from sale of common stock to consulting firm	—	—	250
Proceeds from sale of common stock to founder	—	—	1,500
Proceeds from issuance of notes payable to consultant	—	—	200,000
Repayment of notes payable to consultant	—	(100,000)	(200,000)
Cash acquired in reverse merger transaction	—	—	62,500
Gross proceeds from sale of securities	1,087,500	460,000	5,331,389
Payment of private placement offering costs	—	(77,750)	(446,147)
Advances received from stockholder	—	—	92,717
Net cash provided by financing activities	1,087,500	282,250	5,042,209
Cash:			
Net increase (decrease)	(1,214,868)	76,428	329,123
Balance at beginning of period	1,543,991	10,381	—
Balance at end of period	<u>\$ 329,123</u>	<u>\$ 86,809</u>	<u>\$ 329,123</u>
Supplemental disclosures of cash flow information:			
Cash paid for -			
Interest	\$ —	\$ 834	\$ 2,465
Income taxes	\$ —	\$ —	\$ —
Non-cash financing activities:			
Decrease in advances under equity financing	<u>\$ 1,200,000</u>	<u>\$ —</u>	<u>\$ 1,200,000</u>

See accompanying notes to condensed consolidated financial statements.

**LIXTE BIOTECHNOLOGY HOLDINGS, INC.
AND SUBSIDIARY**
(a development stage company)

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Unaudited)

**Three Months Ended March 31, 2010 and 2009, and
Period from August 9, 2005 (Inception) to March 31, 2010 (Cumulative)**

1. Basis of Presentation

The condensed consolidated financial statements of Lixte Biotechnology Holdings, Inc. and its wholly-owned subsidiary, Lixte Biotechnology, Inc. (the “Company”) at March 31, 2010, for the three months ended March 31, 2010 and 2009, and for the period from August 9, 2005 (inception) to March 31, 2010 (cumulative), are unaudited. In the opinion of management, all adjustments (including normal recurring adjustments) have been made that are necessary to present fairly the financial position of the Company as of March 31, 2010, the results of its operations for the three months ended March 31, 2010 and 2009, and for the period from August 9, 2005 (inception) to March 31, 2010 (cumulative), and its cash flows for the three months ended March 31, 2010 and 2009, and for the period from August 9, 2005 (inception) to March 31, 2009 (cumulative). Operating results for the interim periods presented are not necessarily indicative of the results to be expected for a full fiscal year. The condensed balance sheet at December 31, 2009 has been derived from the audited financial statements.

The statements and related notes have been prepared pursuant to the rules and regulations of the Securities and Exchange Commission. Accordingly, certain information and footnote disclosures normally included in financial statements prepared in accordance with generally accepted accounting principles have been omitted pursuant to such rules and regulations. These financial statements should be read in conjunction with the financial statements and other information included in the Company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2009, as filed with Securities and Exchange Commission.

2. Organization and Business Operations

Organization

On June 30, 2006, Lixte Biotechnology, Inc., a privately-held Delaware corporation (“Lixte”) incorporated on August 9, 2005, completed a reverse merger transaction with SRKP 7, Inc. (“SRKP”), a non-trading public shell company, whereby Lixte became a wholly-owned subsidiary of SRKP. On December 7, 2006, SRKP amended its Certificate of Incorporation to change its name to Lixte Biotechnology Holdings, Inc. (“Holdings”). Unless the context indicates otherwise, Lixte and Holdings are hereinafter referred to as the “Company”.

For financial reporting purposes, Lixte was considered the accounting acquirer in the merger and the merger was accounted for as a reverse merger. Accordingly, the historical financial statements presented herein are those of Lixte. The stockholders’ equity section of SRKP has been retroactively restated for all periods presented to reflect the accounting effect of the reverse merger transaction. All costs associated with the reverse merger transaction were expensed as incurred.

The Company is considered a “development stage company” under current accounting standards, as it has not yet commenced any revenue-generating operations, does not have any cash flows from operations, and is dependent on debt and equity funding to finance its operations.

The Company’s common stock was listed for trading on the OTC Bulletin Board commencing September 24, 2007 under the symbol “LIXT”.

Operating Plans

The Company's original focus was the development of new treatments for the most common and most aggressive type of brain cancer of adults, glioblastoma multiforme ("GBM"), and the most common cancer of children, neuroblastoma. The Company has expanded the scope of its anti-cancer investigational activities to include the most common brain tumor of children, medulloblastoma, and also to several other types of more common cancers. This expansion of activity is based on documentation that each of two distinct types of drugs being developed by the Company has activity against cell lines of breast, colon, lung, prostate, pancreas, ovary, stomach and liver cancer, as well as against the major types of leukemias. LB-100 has now been shown to have activity in animal models of brain tumors of adults and children, and also against melanomas and sarcomas. Studies in animal models of human melanoma, lymphoma, sarcoma, brain tumors, and the rare neuroendocrine cancer, pheochromocytoma, have demonstrated marked potentiation by LB-100 of the anti-tumor activity of the widely used standard chemotherapeutic drugs. These studies confirm that the LB-100 compounds, combined with any of several "standard anti-cancer drugs", have broad activity, affecting many different cell types of cancer. This is unusual and important because these compounds may be useful for treatment of cancer in general.

The research on brain tumors is proceeding in collaboration with the National Institute of Neurological Disorders and Stroke ("NINDS") of the National Institutes of Health ("NIH") under a Cooperative Research and Development Agreement ("CRADA") entered into on March 22, 2006, as amended. The research at NINDS continues to be led by Dr. Zhengping Zhuang, an internationally recognized investigator in the molecular pathology of cancer. Dr. Zhuang is aided by two senior research technicians supported by the Company as part of the CRADA. The goal of the CRADA is to develop more effective drugs for the treatment of GBM through the processes required to gain Food and Drug Administration ("FDA") approval for clinical trials. The Company has entered into an amendment to the CRADA to extend its term from September 30, 2009 through September 30, 2011. During 2009, the Company signed material transfer agreements with academic investigators at major cancer centers in the United States, as well as with one investigator in China with a unique animal model of a sarcoma, to expand molecular and applied studies of the anti-cancer activity of the Company's compounds. The Company retained the right to all discoveries made in these studies.

The Company's longer-term goal is to secure one or more strategic partnerships with pharmaceutical companies with major programs in cancer, anti-fungal treatments, and/or neuroprotective measures. The Company's immediate focus has shifted to obtaining approval from the FDA to carry a lead compound of the LB-100 series into clinical trial. The Company believes the potent activity of these drugs in combination with standard non-specific chemotherapeutic drugs against a diverse array of common and uncommon cancers of adults and children merits bringing this treatment to patients as rapidly as possible. In addition, the demonstration of clinical benefit would be very important to potential investors and to large pharmaceutical companies looking to add an entirely new approach to their anti-cancer drug pipelines.

The significant diversity of the potential therapeutic value of the Company's compounds stems from the fact that these agents modify critical pathways in cancer cells and in microorganisms such as fungi and appear to ameliorate pathologic processes that lead to brain injury caused by trauma or toxins or through as yet unknown mechanisms that underlie the major chronic neurologic diseases, including Alzheimer's Disease, Parkinson's Disease, and Amyotrophic Lateral Sclerosis (ALS, or Lou Gehrig's Disease). Studies of the potential neuroprotective effects of homologs of each class of the Company's compounds are continuing under a contract with Southern Research Institute, Birmingham, Alabama. However, the majority of the Company's resources will be directed to the clinical study of LB-100 for cancer therapy.

Going Concern

The Company's condensed consolidated financial statements have been presented on the basis that it is a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The Company is in the development stage and has not generated any revenues from operations to date, and does not expect to do so in the foreseeable future. The Company has experienced recurring operating losses and negative operating cash flows since inception, and has financed its working capital requirements through the recurring sale of its equity securities. As a result, the Company's independent registered public accounting firm, in its report on the Company's 2009 consolidated financial statements, has raised substantial doubt about the Company's ability to continue as a going concern.

The Company's ability to continue as a going concern is dependent upon its ability to develop additional sources of capital and to ultimately achieve sustainable revenues and profitable operations. The Company's consolidated financial statements do not include any adjustments that might result from the outcome of these uncertainties.

At March 31, 2010, the Company had not yet commenced any revenue-generating operations. All activity through March 31, 2010 has been related to the Company's formation, capital raising efforts and research and development activities. As such, the Company has yet to generate any cash flows from operations, and is dependent on debt and equity funding from both related and unrelated parties to finance its operations. Prior to June 30, 2006, the Company's cash requirements were funded by advances from the Company's founder aggregating \$92,717.

Because the Company is currently engaged in research at an early stage, it will likely take a significant amount of time to develop any product or intellectual property capable of generating revenues. As such, the Company's business is unlikely to generate any sustainable revenues in the next several years, and may never do so. Even if the Company is able to generate revenues in the future through licensing its technologies or through product sales, there can be no assurance that the Company will be able to generate a profit.

The Company's activities in 2010 will consist of continuing drug discovery and development efforts. The Company's primary goal will be to take the Company's LB-100 compound through a Phase I clinical trial by July 1, 2011. As a result of the recent sale of its securities in November 2009, January 2010 and February 2010, the Company believes that its current resources are adequate to fund operations during the remainder of 2010 and at a minimum through mid-2011, at a level that will allow the continuation of the Company's two drug development programs currently in process and completion of the initial Phase I trial of LB-100, if no unexpected delays occur in obtaining FDA approval, in late 2010 or early 2011.

The amount and timing of future cash requirements will depend on the pace of these programs, in particular, completion of the Phase I trial of LB-100. After completion of the Phase I trial, the next step will be to determine the anti-cancer activity against a particular type of human cancer in Phase II trials. To carry out Phase II trials, the Company anticipates that it will be necessary to raise additional funds in 2011 from a combination of debt or equity financings, and/or the sale, licensing or joint venturing of its intellectual properties. Market conditions present uncertainty as to the Company's ability to secure additional funds, as well as its ability to reach profitability. There can be no assurances that the Company will be able to secure additional financing, or obtain favorable terms on such financing if it is available, or as to the Company's ability to achieve positive earnings and cash flows from operations. Continued negative cash flows and lack of liquidity create significant uncertainty about the Company's ability to fully implement its operating plan beyond July 2011, as a result of which the Company may have to reduce the scope of its planned operations. If cash resources are insufficient to satisfy the Company's liquidity requirements, the Company would be required to scale back or discontinue its technology and product development programs, or obtain funds, if available, through strategic alliances that may require the Company to relinquish rights to certain of its technologies products, or to discontinue its operations entirely.

3. Summary of Significant Accounting Policies

Principles of Consolidation

The accompanying condensed consolidated financial statements include the financial statements of Holdings and its wholly-owned subsidiary, Lixte. All intercompany balances and transactions have been eliminated in consolidation.

Cash Concentrations

The Company's cash balances may periodically exceed federally insured limits. The Company has not experienced a loss in such accounts to date. The Company maintains its accounts with financial institutions with high credit ratings.

Research and Development

Research and development costs are expensed as incurred. Research and development expenses consist primarily of fees paid to consultants and outside service providers, patent fees and costs, and other expenses relating to the acquisition, design, development and testing of the Company's treatments and product candidates.

Amounts due, pursuant to contractual commitments, on research and development contracts with third parties are recorded as a liability, with the related amount of such contracts recorded as advances on research and development contract services on the Company's balance sheet. Such advances on research and development contract services are expensed over their life on the straight-line basis, unless the achievement of milestones, the completion of contracted work, or other information indicates that a different expensing schedule is more appropriate.

The funds paid to NINDS of the NIH, pursuant to the CRADA effective March 22, 2006, as amended, represented an advance on research and development costs and therefore had future economic benefit. Accordingly, such costs have been charged to expense when they are actually expended by the provider, which is, effectively, as they perform the research activities that they were contractually committed to provide. Absent information that would indicate that a different expensing schedule was more appropriate (such as, for example, from the achievement of performance milestones or the completion of contract work), such advances have been expensed over the contractual service term on a straight-line basis, which reflects a reasonable estimate of when the underlying research and development costs were being incurred.

Patent Costs

Due to the significant uncertainty associated with the successful development of one or more commercially viable products based on the Company's research efforts and any related patent applications, all patent costs, including patent-related legal and filing fees, are expensed as incurred. Patent costs were \$88,689 and \$20,766 for the three months ended March 31, 2010 and 2009, respectively, and \$613,838 for the period from August 9, 2005 (inception) to March 31, 2009 (cumulative). Patent costs are included in research and development costs in the Company's condensed consolidated statements of operations.

Income Taxes

The Company accounts for income taxes under an asset and liability approach for financial accounting and reporting for income taxes. Accordingly, the Company recognizes deferred tax assets and liabilities for the expected impact of differences between the financial statements and the tax basis of assets and liabilities.

The Company has elected to deduct research and development costs on a current basis for federal income tax purposes. Start-up and organization costs are being deferred until the Company commences revenue-generating operations, at which time such costs will be written off over a 180-month period.

The Company records a valuation allowance to reduce its deferred tax assets to the amount that is more likely than not to be realized. In the event the Company was to determine that it would be able to realize its deferred tax assets in the future in excess of its recorded amount, an adjustment to the deferred tax assets would be credited to operations in the period such determination was made. Likewise, should the Company determine that it would not be able to realize all or part of its deferred tax assets in the future, an adjustment to the deferred tax assets would be charged to operations in the period such determination was made.

For federal income tax purposes, net operating losses can be carried forward for a period of 20 years until they are either utilized or until they expire.

On January 1, 2007, the Company adopted new accounting rules which address the determination of whether tax benefits claimed or expected to be claimed on a tax return should be recorded in the financial statements. The Company may recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that has a greater than fifty percent likelihood of being realized upon ultimate settlement. The new accounting rules also provide guidance on de-recognition, classification, interest and penalties on income taxes, accounting in interim periods and requires increased disclosures. The adoption of the new accounting rules did not have a material effect on the Company's financial statements. As of March 31, 2010, no liability for unrecognized tax benefits was required to be recorded.

The Company files income tax returns in the U.S. federal jurisdiction and is subject to income tax examinations by federal tax authorities for the year 2005 and thereafter. The Company's policy is to record interest and penalties on uncertain tax provisions as income tax expense. As of March 31, 2010, the Company has no accrued interest or penalties related to uncertain tax positions.

Stock-Based Compensation

The Company periodically issues stock options and warrants to officers, directors and consultants for services rendered. Options vest and expire according to terms established at the grant date.

The Company accounts for share-based payments to officers and directors by measuring the cost of services received in exchange for equity awards based on the grant date fair value of the awards, with the cost recognized as compensation expense in the Company's financial statements over the vesting period of the awards.

The Company accounts for share-based payments to consultants by determining the value of the stock compensation based upon the measurement date at either (a) the date at which a performance commitment is reached or (b) at the date at which the necessary performance to earn the equity instruments is complete.

Options granted to Scientific Advisory Board committee members and outside consultants are revalued each reporting period to determine the amount to be recorded as an expense in the respective period. As the options vest, they are valued on each vesting date and an adjustment is recorded for the difference between the value already recorded and the then current value on the date of vesting.

Earnings Per Share

The Company's computation of earnings per share ("EPS") includes basic and diluted EPS. Basic EPS is measured as the income (loss) available to common shareholders divided by the weighted average common shares outstanding for the period. Diluted EPS is similar to basic EPS but presents the dilutive effect on a per share basis of potential common shares (e.g., warrants and options) as if they had been converted at the beginning of the periods presented, or issuance date, if later. Potential common shares that have an anti-dilutive effect (i.e., those that increase income per share or decrease loss per share) are excluded from the calculation of diluted EPS.

Loss per common share is computed by dividing net loss by the weighted average number of shares of common stock outstanding during the respective periods. Basic and diluted loss per common share is the same for all periods presented because all warrants and stock options outstanding are anti-dilutive.

At March 31, 2010 and 2009, the Company excluded the outstanding securities summarized below, which entitle the holders thereof to acquire shares of common stock, from its calculation of earnings per share, as their effect would have been anti-dilutive.

	March 31,	
	2010	2009
Warrants	13,607,426	1,687,426
Stock options	3,540,000	2,540,000
Total	<u>17,147,426</u>	<u>4,227,426</u>

Fair Value of Financial Instruments

The carrying amounts of cash, money market funds, advances on research and development contracts services, prepaid expenses and other current assets, accounts payable and accrued expenses, notes payable to consultant, research and development contract liabilities, liquidated damages payable under registration rights agreement and due to stockholder approximate their respective fair values due to the short-term nature of these items.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Actual results could differ from those estimates.

Recent Accounting Pronouncements

In June 2009, the Financial Accounting Standards Board (“FASB”) issued authoritative guidance on accounting standards codification and the hierarchy of generally accepted accounting principles. The FASB Accounting Standards Codification™ (“Codification”) has become the source of authoritative accounting principles recognized by the FASB to be applied by nongovernmental entities in the preparation of financial statements in accordance with general accepted accounting principles (“GAAP”). All existing accounting standard documents were superseded by the Codification and any accounting literature not included in the Codification will not be considered authoritative. However, rules and interpretive releases of the Securities and Exchange Commission (“SEC”) issued under the authority of federal securities laws will continue to be sources of authoritative GAAP for SEC registrants. The FASB authoritative guidance was effective for interim and annual reporting periods ending after September 15, 2009. Accordingly, all references made by the Company to GAAP in its consolidated financial statements now use the new Codification numbering system. The Codification does not change or alter existing GAAP, and therefore the adoption of the Codification by the Company on September 30, 2009 did not have any impact on the Company’s consolidated financial statements.

Management does not believe that any other recently issued, but not yet effective, authoritative guidance, if currently adopted, would have a material effect on the Company’s consolidated financial statement presentation or disclosures.

4. Share Exchange Agreement and Private Placement

Share Exchange Agreement

On June 30, 2006, pursuant to a Share Exchange Agreement dated as of June 8, 2006 (the “Share Exchange Agreement”) by and among Holdings, Dr. John S. Kovach (“Seller”) and Lixte, Holdings issued 19,021,786 shares of its common stock in exchange for all of the issued and outstanding shares of Lixte (the “Exchange”). Previously, on October 3, 2005, Lixte had issued 1,500 shares of its no par value common stock to its founder for \$1,500, which constituted all of the issued and outstanding shares of Lixte prior to the Exchange. As a result of the Exchange, Lixte became a wholly-owned subsidiary of Holdings.

Pursuant to the Exchange, Holdings issued to the Seller 19,021,786 shares of its common stock. Holdings had a total of 25,000,832 shares of common stock issued and outstanding after giving effect to the Exchange and the 1,973,869 shares of common stock issued in the initial closing of the private placement.

As a result of the Exchange and the shares of common stock issued in the initial closing of the private placement, on June 30, 2006, the stockholders of the Company immediately prior to the Exchange owned 4,005,177 shares of common stock, equivalent to approximately 16% of the issued and outstanding shares of the Company’s common stock, and the former stockholder of Lixte acquired control of the Company.

The Share Exchange Agreement was determined through arms-length negotiations between Holdings, the Seller and Lixte. In connection with the Exchange, the Company paid WestPark Capital, Inc. an aggregate cash fee of \$50,000.

Private Placements

On June 30, 2006, concurrently with the closing of the Exchange, the Company sold an aggregate of 1,973,869 shares of its common stock to accredited investors in an initial closing of a private placement at a per share price of \$0.333, resulting in aggregate gross proceeds to the Company of \$657,299. The Company paid to WestPark Capital, Inc., as placement agent, a commission of 10% and a non-accountable fee of 4% of the gross proceeds of the private placement and issued five-year warrants to purchase common stock equal to (a) 10% of the number of shares sold in the private placement exercisable at \$0.333 per share and (b) an additional 2% of the number of shares sold in the private placement also exercisable at \$0.333 per share. A total of 236,864 warrants were issued. Net cash proceeds to the Company, after the deduction of all private placement offering costs and expenses, were \$522,939.

On July 27, 2006, the Company sold an aggregate of 1,581,351 shares of its common stock to accredited investors in a second closing of the private placement at a per share price of \$0.333 resulting in aggregate gross proceeds to the Company of \$526,590. The Company paid to WestPark Capital, Inc., as placement agent, a commission of 10% and a non-accountable fee of 4% of the gross proceeds of the private placement and issued five-year warrants to purchase common stock equal to (a) 10% of the number of shares sold in the private placement exercisable at \$0.333 per share and (b) an additional 2% of the number of shares sold in the private placement also exercisable at \$0.333 per share. A total of 189,762 warrants were issued. Net cash proceeds to the Company were \$446,433.

In conjunction with the private placement of common stock, the Company issued a total of 426,626 five-year warrants to WestPark Capital, Inc. exercisable at the per share price of the common stock sold in the private placement (\$0.333 per share). The warrants issued to WestPark Capital, Inc. do not contain any price anti-dilution provisions. However, such warrants contain cashless exercise provisions and demand registration rights, but the warrant holder has agreed to waive any claims to monetary damages or financial penalties for any failure by the Company to comply with such registration requirements. Based on the foregoing, the warrants were accounted for as equity and were not accounted for separately from the common stock and additional paid-in capital accounts. The warrants had no accounting impact on the Company's consolidated financial statements.

As part of the Company's private placement of its securities completed on July 27, 2006, the Company entered into a registration rights agreement with the purchasers, whereby the Company agreed to register the shares of common stock sold in the private placement, and to maintain the effectiveness of such registration statement, subject to certain conditions. The agreement required the Company to file a registration statement within 45 days of the closing of the private placement and to have the registration statement declared effective within 120 days of the closing of the private placement. On September 8, 2006, the Company filed a registration statement on Form SB-2 to register 3,555,220 shares of the common stock sold in the private placement. Since the registration statement was not declared effective by the Securities and Exchange Commission within 120 days of the closing of the private placement, the Company was required to pay each investor prorated liquidated damages equal to 1.0% of the amount raised per month, payable monthly in cash.

On the date of the closing of the private placement, the Company believed it would meet the deadlines under the registration rights agreement with respect to filing a registration statement and having it declared effective by the Securities and Exchange Commission. As a result, the Company did not record any liabilities associated with the registration rights agreement at June 30, 2006. At December 31, 2006, the Company determined that the registration statement covering the shares sold in the private placement would not be declared effective within the requisite time frame and therefore accrued six months liquidated damages under the registration rights agreement aggregating approximately \$74,000, which has been presented as a current liability for all periods presented. The Company's registration statement on Form SB-2 was declared effective by the Securities and Exchange Commission on May 14, 2007. At March 31, 2010, the registration penalty to the investors had not been paid.

On December 12, 2007, the Company sold an aggregate of 999,995 shares of its common stock to accredited investors in a second private placement at a per share price of \$0.65, resulting in aggregate gross proceeds to the Company of \$650,000. The Company paid to WestPark Capital, Inc., as placement agent, a commission of 10% and a non-accountable fee of 4% of the gross proceeds of the private placement and issued five-year warrants to purchase common stock equal to (a) 10% of the number of shares sold in the private placement exercisable at \$0.65 per share and (b) an additional 2% of the number of shares sold in the private placement also exercisable at \$0.65 per share. Net cash proceeds to the Company were \$531,320.

In conjunction with the second private placement of common stock, the Company issued a total of 120,000 five-year warrants to WestPark Capital, Inc. exercisable at the per share price of the common stock sold in the private placement (\$0.65 per share). The warrants issued to WestPark Capital, Inc. do not contain any price anti-dilution provisions. However, such warrants contain cashless exercise provisions and demand registration rights, but the warrant holder has agreed to waive any claims to monetary damages or financial penalties for any failure by the Company to comply with such registration requirements. Based on the foregoing, the warrants were accounted for as equity and were not accounted for separately from the common stock and additional paid-in capital accounts. The warrants had no accounting impact on the Company's consolidated financial statements.

As part of the Company's second private placement of its securities completed on December 12, 2007, the Company entered into a registration rights agreement with the purchasers, whereby the Company agreed to register the shares of common stock sold in the second private placement at its sole cost and expense. The registration rights agreement terminates at such time as the common shares may be sold in market transactions without regard to any volume limitations. The registration rights agreement requires the Company to file a registration statement within 75 days of receipt of written demand from holders who represent at least 50% of the common shares issued pursuant to the second private placement, provided that no demand shall be made for less than 500,000 shares, and to use its best efforts to cause such registration statement to become and remain effective for the requisite period. The registration rights agreement also provides for unlimited piggyback registration rights. The registration rights agreement does not provide for any penalties in the event that the Company is unable to comply with its terms.

During the year ended December 31, 2009, the Company completed three closings of a third private placement of common stock units, consisting of a total of 1,420,000 shares of common stock and 1,420,000 warrants to acquire common stock, as follows:

On February 10, 2009, the Company sold an aggregate of 658,000 common stock units to accredited investors in a first closing of a third private placement at a per unit price of \$0.50, resulting in aggregate gross proceeds to the Company of \$329,000. Net cash proceeds to the Company were \$269,790.

On March 2, 2009, the Company sold an aggregate of 262,000 common stock units to accredited investors in a second closing of the third private placement at a per unit price of \$0.50, resulting in aggregate gross proceeds to the Company of \$131,000. Net cash proceeds to the Company were \$112,460.

On April 6, 2009, the Company sold an aggregate of 500,000 common stock units to accredited investors in a third closing of the third private placement at a per unit price of \$0.50, resulting in aggregate gross proceeds to the Company of \$250,000. Net cash proceeds to the Company were \$214,800.

Each unit sold in the third private placement consisted of one share of the Company's common stock and a five-year warrant to purchase an additional share of the Company's common stock on a cashless exercise basis at an exercise price of \$0.50 per common share. The Company paid to WestPark Capital, Inc., as placement agent, a commission of 10% and a non-accountable fee of 4% of the gross proceeds of the third private placement and issued five-year warrants to purchase common stock equal to (a) 10% of the number of shares sold in the third private placement exercisable at \$0.50 per share and 10% of the number of shares issuable upon exercise of warrants issued in the third private placement exercisable at \$0.50 per share; and (b) an additional 2% of the number of shares sold in the third private placement also exercisable at \$0.50 per share and 2% of the number of shares issuable upon exercise of the warrants issued in the third private placement exercisable at \$0.50 per share.

In conjunction with the closings of the third private placement of common stock units during the year ended December 31, 2009, the Company issued a total of 340,800 five-year warrants to WestPark Capital, Inc., which are exercisable at the per unit price of the common stock units sold in the third private placement (\$0.50 per unit). Included in the 340,800 warrants issued to WestPark Capital, Inc. are 170,400 warrants which are only exercisable with respect to common shares that are acquired by investors upon their exercise of the warrants acquired as part of the units sold in the third private placement. The warrants issued to WestPark Capital, Inc. do not contain any price anti-dilution provisions. However, such warrants contain cashless exercise provisions and demand registration rights, but the warrant holder has agreed to waive any claims to monetary damages or financial penalties for any failure by the Company to comply with such registration requirements. Based on the foregoing, the warrants were accounted for as equity and were not accounted for separately from the common stock and additional paid-in capital accounts. The warrants had no accounting impact on the Company's consolidated financial statements.

At the request of the holders, the Company has agreed to include any shares sold in the third private placement and any shares issuable upon exercise of the related warrants to be included in any registration statement filed with the Securities and Exchange Commission permitting the resale of such shares, subject to customary cutbacks, at the Company's sole cost and expense.

Effective November 6, 2009, the Company sold 1,000,000 common stock units to an accredited investor in a fourth private placement at a per unit price of \$0.50, resulting in proceeds to the Company of \$500,000. There were no commissions paid with respect to the fourth private placement. The closing price of the Company's common stock on November 6, 2009 was \$0.50 per share.

Each unit sold in the fourth private placement consisted of one share of the Company's common stock, one three-year warrant to purchase an additional share of the Company's common stock at an exercise price of \$0.50 per share, and one three-year warrant to purchase an additional share of the Company's common stock at an exercise price of \$0.75 per share. The warrants do not have any reset provisions.

At the request of the holder, the Company has agreed to include the shares sold in the fourth private placement and any shares issuable upon exercise of the related warrants in any registration statement filed by the Company with the Securities and Exchange Commission permitting the resale of such securities, subject to customary cutbacks. The units sold were not registered under the Securities Act of 1933, as amended (the "Act"), in reliance upon the exemption from registration contained in Section 4(2) of the Act and Regulation D promulgated thereunder. Based on the foregoing, the warrants were accounted for as equity and were not accounted for separately from the common stock and additional paid-in capital accounts. The warrants had no accounting impact on the Company's consolidated financial statements.

Effective January 20, 2010, the Company raised \$1,787,500 in a fifth private placement of units sold to certain of its existing stockholders or their designees, all of whom were accredited investors, consisting of an aggregate of 3,575,000 units at a purchase price of \$0.50 per unit. Each unit consisted of one share of common stock, one three-year warrant to purchase a share of common stock at an exercise price of \$0.50 per share, and one three year-year warrant to purchase a share of common stock at an exercise price of \$0.75 per share. The warrants do not have any reset provisions. The closing price of the Company's common stock on January 20, 2010 was \$0.49 per share. There were no commissions paid with respect to the private placement. Upon request by the holder, the Company has agreed to include the shares issued and those shares issuable upon exercise of the warrants in any registration statement filed by the Company with the Securities and Exchange Commission permitting the resale of such securities, subject to customary cutbacks. The units sold were not registered under the Act, in reliance upon the exemption from registration contained in Section 4(2) of the Act and Regulation D promulgated thereunder. The Company accounted for the issuance of the units as a capital transaction. As of December 31, 2009, \$1,200,000 had been advanced to the Company under this private placement.

Effective February 22, 2010, the Company raised \$500,000 through the sale to an accredited investor of 1,000,000 units at a purchase price of \$0.50 per unit. Each unit consisted of one share of common stock, one three-year warrant to purchase a share of common stock at an exercise price of \$0.50 per share, and one three year-year warrant to purchase a share of common stock at an exercise price of \$0.75 per share. The warrants do not have any reset provisions. The closing price of the Company's common stock on February 22, 2010 was \$0.50 per share. There were no commissions paid with respect to the private placement. Upon request by the holder, the Company has agreed to include the shares issued and those shares issuable upon exercise of the warrants in any registration statement filed by the Company with the Securities and Exchange Commission permitting the resale of such securities, subject to customary cutbacks. The units sold were not registered under the Act, in reliance upon the exemption from registration contained in Section 4(2) of the Act and Regulation D promulgated thereunder. The Company accounted for the issuance of the units as a capital transaction

5. Money Market Funds — Fair Value

Money market funds at March 31, 2010 and December 31, 2009 consisted of an investment in the Class A Shares of Western Asset New York Municipal Money Market Fund with a market value of \$2,075,042 and \$25,000, respectively. The stated purpose of this money market fund is to provide income exempt from both regular federal income tax and New York State and New York City personal income tax from a portfolio of high quality short-term municipal obligations selected for liquidity and stability of principal.

Effective January 1, 2008, the Company adopted new standards which established a framework for measuring fair value, clarified the definition of fair value within that framework, and expanded disclosures about fair value measurements. These new standards established a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three levels, and requires that assets and liabilities carried at fair value are classified and disclosed in one of three categories, as presented below. These new standards also require disclosure as to transfers in and out of Levels 1 and 2, and activity in Level 3 fair value measurements.

Level 1: quoted prices (unadjusted) in active markets for an identical asset or liability that the Company has the ability to access as of the measurement date. Financial assets and liabilities utilizing Level 1 inputs include active-exchange traded securities and exchange-based derivatives.

Level 2: inputs other than quoted prices included within Level 1 that are directly observable for the asset or liability or indirectly observable through corroboration with observable market data. Financial assets and liabilities utilizing Level 2 inputs include fixed income securities, non-exchange based derivatives, mutual funds, and fair-value hedges.

Level 3: unobservable inputs for the asset or liability are only used when there is little, if any, market activity for the asset or liability at the measurement date. Financial assets and liabilities utilizing Level 3 inputs include infrequently-traded non-exchange-based derivatives and commingled investment funds, and are measured using present value pricing models.

In accordance with new standards, the Company determines the level in the fair value hierarchy within which each fair value measurement falls in its entirety, based on the lowest level input that is significant to the fair value measurement in its entirety. In determining the appropriate levels, the Company performs an analysis of the assets and liabilities that are subject to the new standards at each reporting period end.

Money market funds are the only financial instrument that is measured and recorded at fair value on the Company's balance sheet on a recurring basis. The following table presents money market funds at their level within the fair value hierarchy at March 31, 2010 and December 31, 2009.

	<u>Total</u>	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>
March 31, 2010:				
Money market funds	<u>\$ 2,075,042</u>	<u>\$ 2,075,042</u>	<u>\$ —</u>	<u>\$ —</u>
December 31, 2009:				
Money market funds	<u>\$ 25,000</u>	<u>\$ 25,000</u>	<u>\$ —</u>	<u>\$ —</u>

6. Related Party Transactions

Prior to June 30, 2006, the Company's founding stockholder and Chief Executive Officer, Dr. John Kovach, had periodically made advances to the Company to meet operating expenses. Such advances are non-interest-bearing and are due on demand. At March 31, 2010 and December 31, 2009, stockholder advances totaled \$92,717.

The Company's office facilities have been provided without charge by Dr. Kovach. Such costs were not material to the financial statements and, accordingly, have not been reflected therein.

Dr. Kovach did not receive any compensation from the Company during the three months ended March 31, 2010 and 2009, and for the period from August 9, 2005 (inception) through March 31, 2010 (cumulative), in view of the Company's development stage status and limited resources. Any future compensation arrangements will be subject to the approval of the Board of Directors.

Dr. Kovach is involved in other business activities and may, in the future, become involved in other business opportunities that become available. Accordingly, he may face a conflict in selecting between the Company and his other business interests. The Company has not yet formulated a policy for the resolution of such potential conflicts.

7. Notes Payable to Consultant

On October 3, 2008, the Company borrowed \$100,000 from Gil Schwartzberg, a consultant to the Company, pursuant to an unsecured demand promissory note with interest at 5% per annum, to fund the Company's short-term working capital requirements. The note, including accrued interest of \$834, was repaid on February 7, 2009. An additional interest payment of \$851 was made on April 27, 2009.

On September 30, 2009, the Company borrowed \$100,000 from Gil Schwartzberg pursuant to an unsecured demand promissory note with interest at 5% per annum, to fund the Company's short-term working capital requirements. The note, including accrued interest of \$780, was repaid on November 26, 2009.

Additional transactions between the Company and Gil Schwartzberg are described in Note 9.

8. Common Stock and Preferred Stock

The Company's Certificate of Incorporation provides for authorized capital of 110,000,000 shares, of which 100,000,000 shares consist of common stock with a par value of \$0.0001 per share and 10,000,000 shares consist of preferred stock with a par value of \$0.0001 per share.

The Company is authorized to issue 10,000,000 shares of preferred stock with such designations, voting and other rights and preferences as may be determined from time to time by the Board of Directors.

9. Stock Options and Warrants

On June 30, 2006, effective with the closing of the Exchange, the Company granted to Dr. Philip Palmedo, an outside director of the Company, stock options to purchase an aggregate of 200,000 shares of common stock, exercisable for a period of five years at \$0.333 per share, with one-third of the options (66,666 shares) vesting immediately upon joining the Board and one-third vesting annually on each of June 30, 2007 and 2008. The fair value of these options, as calculated pursuant to the Black-Scholes option-pricing model, was determined to be \$62,000 (\$0.31 per share), of which \$20,666 was charged to operations on June 30, 2006, and the remaining \$41,334 was charged to operations ratably from July 1, 2006 through June 30, 2008.

On June 30, 2006, effective with the closing of the Exchange, the Company also granted to Dr. Palmedo additional stock options to purchase 190,000 shares of common stock exercisable for a period of five years at \$0.333 per share for services rendered in developing the business plan for Lixte, all of which were fully vested upon issuance. The fair value of these options, as calculated pursuant to the Black-Scholes option-pricing model, was determined to be \$58,900 (\$0.31 per share), and was charged to operations at June 30, 2006.

On June 30, 2006, effective with the closing of the Exchange, the Company granted to two members of its Scientific Advisory Committee stock options to purchase an aggregate of 100,000 shares of common stock exercisable for a period of five years at \$0.333 per share, with one-half of the options vesting annually on each of June 30, 2007 and June 30, 2008. The fair value of these options, as calculated pursuant to the Black-Scholes option-pricing model, was charged to operations ratably from July 1, 2006 through June 30, 2008. In August 2008, one of the members resigned from his position and waived his right to his vested stock option to purchase 50,000 shares of common stock.

On June 30, 2006, the fair value of the aforementioned stock options was initially calculated using the following Black-Scholes input variables: stock price - \$0.333; exercise price - \$0.333; expected life - 5 to 7 years; expected volatility - 150%; expected dividend yield - 0%; risk-free interest rate - 5%. On June 30, 2007, the Black-Scholes input variables utilized to determine the fair value of the aforementioned stock options were stock price - \$0.333; exercise price - \$0.333; expected life - 4 to 6 years; expected volatility - 150%; expected dividend yield - 0%; risk-free interest rate - 4.5%. On June 30, 2008, the fair value of the aforementioned stock options was calculated using the following Black-Scholes input variables: stock price - \$0.30; exercise price - \$0.333; expected life - 3 to 5 years; expected volatility - 154.5%; expected dividend yield - 0%; risk-free interest rate - 3.28%.

On February 5, 2007, the Company entered into an agreement (the "Chem-Master Agreement") with Chem-Master International, Inc. ("Chem-Master"), a company owned by Francis Johnson, a consultant to the Company, pursuant to which the Company granted a five-year option to purchase 100,000 shares of the Company's common stock at an exercise price of \$0.333 per share. The fair value of this option, as calculated pursuant to the Black-Scholes option-pricing model, was determined to be \$31,000 (\$0.31 per share) using the following Black-Scholes input variables: stock price on date of grant - \$0.333; exercise price - \$0.333; expected life - 5 years; expected volatility - 150%; expected dividend yield - 0%; risk-free interest rate - 4.5%. The \$31,000 fair value was charged to operations as research and development costs on February 5, 2007 as the option was fully vested and non-forfeitable on the date of issuance. The Company has the right to terminate the Chem-Master Agreement at any time during its term upon sixty days prior written notice. On February 5, 2009, provided that the Chem-Master Agreement had not been terminated prior to such date, the Company agreed to grant Chem-Master a second five-year option to purchase an additional 100,000 shares of the Company's common stock at an exercise price of \$0.333 per share. As of September 30, 2008, the Company determined that it was likely that this option would be issued. Accordingly, the fair value of the option has been reflected as a charge to operations for the period from October 1, 2008 through February 5, 2009. On February 5, 2009, the fair value of this option, as calculated pursuant to the Black-Scholes option-pricing model, was determined to be \$60,000 (\$0.60 per share), which resulted in a charge to operations of \$19,143 during the three months ended March 31, 2009. The Company granted the second five-year option on February 5, 2009.

On September 30, 2008, the fair value of the aforementioned stock option was initially calculated using the following Black-Scholes input variables: stock price - \$0.50; exercise price - \$0.333; expected life - 5.35 years; expected volatility - 275.7%; expected dividend yield - 0%; risk-free interest rate - 2.48%. On February 5, 2009, the fair value of the aforementioned stock option was calculated for the stock option revaluation purposes using the following Black-Scholes input variables: stock price - \$0.60; exercise price - \$0.333; expected life - 5 years; expected volatility - 414.1%; expected dividend yield - 0%; risk-free interest rate - 1.89%.

On January 29, 2008, the Chem-Master Agreement was amended to extend its term to February 15, 2014. Pursuant to the amendment, the Company issued 100,000 shares of its restricted common stock, valued at \$75,000, and granted an option to purchase 200,000 shares of common stock. The option is exercisable for a period of two years from the vesting date at \$1.65 per share, with one-half (100,000 shares) vesting on August 1, 2009, and one-half (100,000 shares) vesting on February 1, 2011. The fair value of this option, as calculated pursuant to the Black-Scholes option-pricing model, was initially determined to be \$96,000 (\$0.48 per share) using the following Black-Scholes input variables: stock price on date of grant - \$0.75; exercise price - \$1.65; expected life - 5 years; expected volatility - 120.1%; expected dividend yield - 0%; risk-free interest rate - 3.09%.

The fair value of the restricted common stock issued was charged to operations as research and development costs on January 29, 2008. On March 31, 2010, the fair value of the aforementioned stock options was determined to be \$92,000 (\$0.46 per share) calculated using the following Black-Scholes input variables: stock price - \$0.50; exercise price - \$1.65; expected life - 2.84 years; expected volatility - 238.6%; expected dividend yield - 0%; risk-free interest rate - 1.60%, which resulted in a charge to operations of \$7,258 during the three months ended March 31, 2010. On March 31, 2009, the fair value of the aforementioned stock options was determined to be \$110,000 (\$0.55 per share) calculated using the following Black-Scholes input variables: stock price - \$0.55; exercise price - \$1.65; expected life - 3.84 years; expected volatility - 414.1%; expected dividend yield - 0%; risk-free interest rate - 1.89%, which resulted in a charge to operations of \$7,760 during the three months ended March 31, 2009.

On June 20, 2007, the Board of Directors of the Company approved the 2007 Stock Compensation Plan (the "2007 Plan"), which provides for the granting of awards, consisting of common stock options, stock appreciation rights, performance shares, or restricted shares of common stock, to employees and independent contractors, for up to 2,500,000 shares of the Company's common stock, under terms and condition, as determined by the Company's Board of Directors.

On September 12, 2007, in conjunction with his appointment as a director of the Company, the Company granted to Dr. Stephen Carter stock options to purchase an aggregate of 200,000 shares of common stock under the 2007 Plan, exercisable for a period of five years from vesting date at \$0.333 per share, with one-half (100,000 shares) vesting annually on each of September 12, 2008 and 2009. The fair value of these options, as calculated pursuant to the Black-Scholes option-pricing model, was determined to be \$204,000 (\$1.02 per share), and was charged to operations ratably from September 12, 2007 through September 12, 2009. During the three months ended March 31, 2009, the Company recorded a charge to operations of \$25,151 with respect to these options. Effective April 20, 2010, Dr. Carter resigned as a director for personal reasons. Consequently, pursuant to the stock option agreement, Dr. Carter has twelve months from April 20, 2010 to exercise his stock options to acquire 200,000 shares of the Company's common stock.

On September 12, 2007, the Company entered into a consulting agreement with Gil Schwartzberg, pursuant to which the Company granted to Mr. Schwartzberg stock options to purchase an aggregate of 1,000,000 shares of common stock, exercisable for a period of four years from the vesting date at \$1.00 per share, with one-half of the options (500,000 shares) vesting immediately and one-half (500,000 shares) vesting on September 12, 2008. The fair value of these options, as calculated pursuant to the Black-Scholes option-pricing model, was initially determined to be \$945,000 (\$0.945 per share), of which \$465,000 was attributed to the fully-vested options and was thus charged to operations on September 12, 2007. The remaining unvested portion of the fair value of the options was charged to operations ratably from September 12, 2007 through September 12, 2008. On September 12, 2008, the fair value of these options, as calculated pursuant to the Black-Scholes option-pricing model, was determined to be \$325,000 (\$0.65 per share).

On October 15, 2009, the Company amended the above described consulting agreement with Gil Schwartzberg to extend it for an additional four years and granted to Mr. Schwartzberg stock options to purchase an additional aggregate of 1,000,000 shares of common stock, exercisable for a period of four years from the vesting date at \$1.00 per share, with one-half of the options (500,000 shares) vesting immediately and one-half (500,000 shares) vesting on October 15, 2010. The fair value of these options, as calculated pursuant to the Black-Scholes option-pricing model, was determined to be \$750,000 (\$0.75 per share) on October 15, 2009, of which \$375,000 was attributed to the fully-vested options and was thus charged to operations on October 15, 2009. The remaining unvested portion of the fair value of the options is being charged to operations ratably from October 15, 2009 through October 15, 2010. On March 31, 2010, the fair value of the unvested portion of these options, as calculated pursuant to the Black-Scholes option-pricing model, was determined to be \$245,000 (\$0.49 per share), which resulted in a charge to operations of \$60,411 during the three months ended March 31, 2010.

On September 12, 2007, the Company entered into a consulting agreement with Francis Johnson, a co-owner of Chem-Master International, Inc., and granted to Professor Johnson stock options to purchase an aggregate of 300,000 shares of common stock, exercisable for a period of four years from the vesting date at \$0.333 per share, with one-third (100,000 shares) vesting annually on each of September 12, 2008, 2009 and 2010. The fair value of these options, as calculated pursuant to the Black-Scholes option-pricing model, was initially determined to be \$300,000 (\$1.00 per share), and is being charged to operations ratably from September 12, 2007 through September 12, 2010. On March 31, 2010 and 2009, the fair value of these options, as calculated pursuant to the Black-Scholes option-pricing model, was determined to be \$150,000 (\$0.50 per share) and \$165,000 (\$0.55 per share), respectively, which resulted in a charge to operations of \$12,630 and \$12,959 during the three months ended March 31, 2010 and 2009, respectively.

On September 12, 2007, the fair value of the aforementioned stock options was initially calculated using the following Black-Scholes input variables: stock price - \$1.05; exercise price - \$0.333 to \$1.00; expected life - 4 to 6 years; expected volatility - 150%; expected dividend yield - 0%; risk-free interest rate - 5%. On October 15, 2009, the fair value of the aforementioned stock options was initially calculated using the following Black-Scholes input variables: stock price - \$0.75; exercise price - \$1.00; expected life - 5 years; expected volatility - 259.1%; expected dividend yield - 0%; risk-free interest rate - 1.91%. On March 31, 2010, the fair value of the aforementioned stock options was calculated for the stock option revaluation purposes using the following Black-Scholes input variables: stock price - \$0.50; exercise price - \$0.333 to \$1.00; expected life - 4.48 to 4.54 years; expected volatility - 238.6%; expected dividend yield - 0%; risk-free interest rate - 1.60%. On March 31, 2009, the fair value of the aforementioned stock options was calculated for the stock option revaluation purposes using the following Black-Scholes input variables: stock price - \$0.55; exercise price - \$0.333; expected life - 4.48; expected volatility - 414.1%; expected dividend yield - 0%; risk-free interest rate - 1.89%. As the Company's common stock commenced trading on September 24, 2007, the Company was able to utilize such trading data to generate revised volatility factors at March 31, 2010 and 2009.

On September 20, 2007, the Company entered into a one-year consulting agreement (the "Mirador Agreement") with Mirador Consulting, Inc. ("Mirador"), pursuant to which Mirador was to provide the Company with various financial services. Pursuant to the Mirador Agreement, the Company agreed to pay Mirador \$5,000 per month and also agreed to sell Mirador 250,000 shares of the Company's restricted common stock for \$250 (\$0.001 per share). The fair value of this transaction was determined to be in excess of the purchase price by \$262,250 (\$1.049 per share), reflecting the difference between the \$0.001 purchase price and the \$1.05 price per share as quoted on the OTC Bulletin Board on the transaction date, and was charged to operations as stock-based compensation on September 20, 2007, being that the shares were fully vested and non-forfeitable on the date of issuance.

On October 7, 2008, the Company appointed Dr. Mel Sorensen to its Board of Directors. Dr. Sorensen is a medical oncologist with extensive experience in cancer drug development, first at the National Cancer Institute, then at Bayer and GlaxoSmithKline, before becoming President and Chief Executive Officer of a new cancer therapeutics company, Ascenta Therapeutics, in 2004. Dr. Sorensen was paid an annual consulting fee of \$40,000, payable in quarterly installments over a one year period commencing October 7, 2008, to assist the Company in identifying a strategic partner. Dr. Sorensen was also granted a stock option to purchase 200,000 shares of the Company's common stock, exercisable at \$0.50 per share for a period of five years from each tranche's vesting date. The option vests as to 25,000 shares on January 1, 2009, and a further 25,000 shares on the first day of each subsequent calendar quarter until all of the shares are vested. The fair value of these options, as calculated pursuant to the Black-Scholes option-pricing model, was determined to be \$100,000 (\$0.50 per share), and is being charged to operations ratably from October 7, 2008 through October 7, 2010. During the three months ended March 31, 2010 and 2009, the Company recorded a charge to operations of \$12,329 and \$12,363, respectively, with respect to these options. On April 7, 2010, a new agreement was established with Dr. Sorensen providing for consultation and advice over the ensuing twelve month period regarding the preparation and strategy for obtaining FDA approval for the clinical trial of the lead compound of the LB-100 series for an annual fee of \$25,000, payable in two installments of \$12,500 each due on April 15, 2010 and October 15, 2011.

On October 7, 2008, the fair value of the aforementioned stock options was calculated using the following Black-Scholes input variables: stock price - \$0.50; exercise price - \$0.50; expected life - 5 years; expected volatility - 275.7%; expected dividend yield - 0%; risk-free interest rate - 2.48%.

On July 27, 2009, the Company entered into an agreement with Pro-Active Capital Group, LLC ("Pro-Active") to retain Pro-Active on a non-exclusive basis for a period of twelve months to provide consulting advice to the Company to assist the Company in obtaining research coverage, gaining web-site exposure and coverage on financial blogs and web-sites, enhancing the Company's visibility to the institutional, retail brokerage and on-line trading communities, and organizing, or assisting in organizing, investor road-shows and presentations. In exchange for such consulting advice, at the initiation of the agreement, the Company agreed to issue to Pro-Active 150,000 shares of restricted common stock and three-year warrants to purchase an aggregate of 150,000 shares of common stock, exercisable 50,000 at \$0.75 per share, 50,000 at \$1.00 per share, and 50,000 at \$1.25 per share. The fair value of the 150,000 shares issued was determined to be \$100,500 (\$0.67 per share), reflecting the price per share of the Company's common stock, as quoted on the OTC Bulletin Board, on the transaction date. The fair value of the three-year warrants, as calculated pursuant to the Black-Scholes option-pricing model, was determined to be \$97,500 (\$0.65 per share) using the following Black-Scholes input variables: stock price on date of grant - \$0.67; exercise price - \$0.75 to \$1.25; expected life - 3 years; expected volatility - 259.1%; expected dividend yield - 0%; risk-free interest rate - 1.91%. The \$198,000 aggregate fair value of the shares and warrants issued was charged to operations as stock-based compensation on July 27, 2009, since the shares and warrants were fully vested and non-forfeitable on the date of issuance.

Additional information with respect to common stock warrants and stock options issued is provided at Notes 4 and 10.

If and when the aforementioned stock options and warrants are exercised, the Company expects to satisfy such stock obligations through the issuance of authorized but unissued shares of common stock.

A summary of stock option and warrant activity, including warrants to purchase common stock that were issued in conjunction with the Company's private placements, is presented in the tables below.

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in Years)
Options and warrants outstanding at December 31, 2007	2,636,626	\$ 0.600	4.32
Granted	500,000	0.927	4.71
Exercised	—	—	—
Cancelled	(50,000)	0.333	2.75
Options and warrants outstanding at December 31, 2008	3,086,626	0.658	3.55
Granted	4,910,800	0.668	3.61
Exercised	—	—	—
Cancelled	—	—	—
Options and warrants outstanding at December 31, 2009	7,997,426	\$ 0.664	3.30
Granted	9,150,000	0.625	2.83
Exercised	—	—	—
Cancelled	—	—	—
Options and warrants outstanding at March 31, 2010	<u>17,147,426</u>	<u>\$ 0.643</u>	2.89
Options and warrants exercisable at December 31, 2009	<u>7,027,026</u>	<u>\$ 0.637</u>	3.02
Options and warrants exercisable at March 31, 2010	<u>16,202,026</u>	<u>\$ 0.630</u>	2.81

The intrinsic value of exercisable but unexercised in-the-money stock options and warrants at March 31, 2010 was \$244,930, based on a fair market value of \$0.50 per share on March 31, 2010. The intrinsic value of exercisable but unexercised in-the-money stock options and warrants at December 31, 2009 was \$230,260, based on a fair market value of \$0.49 per share on December 31, 2009.

Total deferred compensation expense for the outstanding value of unvested stock options was approximately \$206,275 at March 31, 2010, which is being recognized subsequent to March 31, 2010 over a weighted-average period of 6.8 months.

Information regarding stock options and warrants outstanding and exercisable is summarized as follows at March 31, 2010:

Exercise Prices	Warrants And Options Outstanding (Shares)	Warrants And Options Exercisable (Shares)
\$ 0.333	1,566,626	1,466,626
\$ 0.500	7,535,800	7,290,400
\$ 0.650	120,000	120,000
\$ 0.750	5,625,000	5,625,000
\$ 1.000	2,050,000	1,550,000
\$ 1.250	50,000	50,000
\$ 1.650	200,000	100,000
	<u>17,147,426</u>	<u>16,202,026</u>

Outstanding options and warrants to acquire 775,000 shares of the Company's common stock had not vested at March 31, 2010. At March 31, 2010, warrants and options exercisable do not include warrants to acquire 170,400 shares of common stock that are contingent upon the exercise of warrants contained in units sold as part of the third private placement (see Note 4).

10. Commitments and Contingencies

Effective March 22, 2006, the Company entered into a CRADA, as amended, with the NINDS of the NIH. The CRADA is for a term of 66 months from the effective date and can be unilaterally terminated by either party by providing written notice within sixty days. The CRADA provides for the collaboration between the parties in the identification and evaluation of agents that target the Nuclear Receptor CoRepressor (N-CoR) pathway for glioma cell differentiation. The CRADA also provides that NINDS and the Company will conduct research to determine if expression of N-CoR correlates with prognosis in glioma patients. Pursuant to the CRADA, the Company initially agreed to provide funds under the CRADA in the amount of \$200,000 per year to fund two technical assistants for the technical, statistical and administrative support for the research activities, as well as to pay for supplies and travel expenses. The first \$200,000 was due within 180 days of the effective date and was paid in full on July 6, 2006. The second \$200,000 was paid in full on June 29, 2007. In June 2008, the CRADA was extended to September 30, 2009, with no additional funding required for the period between July 1, 2008 and September 30, 2008. For the period from October 1, 2008 through September 30, 2009, the Company agreed to provide additional funding under the CRADA of \$200,000, to be paid in four quarterly installments of \$50,000 each commencing on October 1, 2008. The first and second quarterly installments of \$50,000 were paid on September 29, 2008 and March 5, 2009, respectively. During August 2009, the Company entered into an amendment to the CRADA to extend its term from September 30, 2009 through September 30, 2011. Pursuant to such amendment, the Company has agreed to aggregate payments of \$100,000 in two installments of \$50,000 payable on October 1, 2010 and January 5, 2011, inclusive of any prior unpaid commitments.

On February 5, 2007, the Company entered into a two-year agreement pursuant to which the Company engaged Chem-Master to synthesize a compound designated as "LB-1", and any other compound synthesized by Chem-Master pursuant to the Company's request, which have potential use in treating a disease, including, without limitation, cancers such as glioblastomas. Pursuant to the Chem-Master Agreement, the Company agreed to reimburse Chem-Master for the cost of materials, labor, and expenses for other items used in the synthesis process, and also agreed to grant Chem-Master a five-year option to purchase shares of the Company's common stock. The Company has the right to terminate the Chem-Master Agreement at any time during its term upon sixty days prior written notice.

On January 29, 2008, the Chem-Master Agreement was amended to extend its term to February 15, 2014, and to expressly provide for the design and synthesis of a new series of compounds designated as "LB-3". Pursuant to the Chem-Master Agreement, as amended, the Company reimbursed Chem-Master for the costs of materials, labor, and expenses aggregating \$13,000 and \$9,000 during the three months ended March 31, 2010 and 2009, respectively.

Effective as of September 19, 2008, the Company entered into an agreement with the NIH providing the Company with an exclusive license for all patents submitted jointly with the NIH under the CRADA. The agreement provided for an initial payment of \$25,000 to NIH within 60 days of September 19, 2008, and for a minimum annual royalty of \$30,000 on January 1 of each calendar year following the year in which the CRADA is terminated. The agreement also provides for the Company to pay specified royalties based on (i) net sales by the Company and its sub-licensees, (ii) the achievement of certain clinical benchmarks, and (iii) the granting of sublicenses. The Company paid the initial \$25,000 obligation on November 10, 2008 and charged the amount to general and administrative costs during the year ended December 31, 2008.

On October 9, 2008, the Company engaged Southern Research Institute, Birmingham, Alabama, to assess one lead compound from each of two classes of its proprietary pharmacological agents for effects on normal neuronal cells and to determine if the compounds protect normal brain cells from injury in several different models of chemical and traumatic brain injury. The goal is to determine if these agents have promise as potentially useful for the prevention, amelioration or delay of progression of neurodegenerative diseases such as Alzheimer's disease and other neurological diseases or impairments resulting from trauma and/or other diverse or unknown origins. The Company agreed to pay a fee not to exceed a total of \$50,000 for such services, all of which had been paid as of December 31, 2009.

On November 17, 2009, the Company entered into an agreement with Johnson Matthey Pharma Services for the preparation of drug materials at a total estimated cost of \$45,500, of which \$8,125 had been paid as of March 31, 2010.

On December 23, 2009, the Company's agreement with Southern Research Institute was amended to include certain additional studies of neurodegenerative diseases at an additional estimated cost of \$21,200.

On January 5, 2010, the Company engaged Southern Research Institute to perform several of the pre-clinical studies of LB-100 needed for an Investigational New Drug ("IND") application at a total estimated cost of \$109,800, of which \$48,045 had been paid as of March 31, 2010.

On March 17, 2010, the Company engaged Theradex to assist the Company in bringing LB-100 through the FDA approval process at a total estimated cost of \$105,064.

On April 15, 2010, the Company entered into an agreement with Ascentage Pharma Group to assist in the pharmacological characterization of the Company's proprietary compounds at a total estimated cost of \$30,000. Ascentage Pharma Group is an offshoot of Ascenta Therapeutics, of which Dr. Mel Sorensen, a director of the Company, is the President and Chief Executive Officer and a director. Ascentage Pharma Group and Ascenta Therapeutics have a continuing business relationship and certain common shareholders. However, Dr. Sorensen does not have any direct business relationship with or ownership in Ascentage Pharma Group.

The following table sets forth the Company's principal cash obligations and commitments for the next five fiscal years as of March 31, 2010 aggregating \$492,111, of which \$222,748 is included in current liabilities in the condensed consolidated balance sheet at March 31, 2010.

	Total	Payments Due By Year	
		2010	2011
CRADA	\$ 100,000	\$ 50,000	\$ 50,000
Research and development contracts	225,394	225,394	—
Liquidated damages payable under registration rights agreement	74,000	74,000	—
Due to stockholder	92,717	92,717	—
Total	\$ 492,111	\$ 442,111	\$ 50,000

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Overview

On June 30, 2006, Lixte Biotechnology, Inc., a privately held Delaware corporation ("Lixte") incorporated on August 9, 2005, completed a reverse merger transaction with SRKP 7, Inc. ("SRKP"), a non-trading public shell company, whereby Lixte became a wholly-owned subsidiary of SRKP. On December 7, 2006, SRKP amended its Certificate of Incorporation to change its name to Lixte Biotechnology Holdings, Inc. ("Holdings"). Unless the context indicates otherwise, Lixte and Holdings are hereinafter referred to as the "Company".

For financial reporting purposes, Lixte was considered the accounting acquirer in the merger and the merger was accounted for as a reverse merger. Accordingly, the historical financial statements presented herein are those of Lixte. The stockholders' equity section of SRKP has been retroactively restated for all periods presented to reflect the accounting effect of the reverse merger transaction. All costs associated with the reverse merger transaction were expensed as incurred.

The Company is considered a "development stage company" under current accounting standards, as it has not yet commenced any revenue-generating operations, does not have any cash flows from operations, and is dependent on debt and equity funding to finance its operations.

The Company's common stock was listed for trading on the OTC Bulletin Board commencing September 24, 2007 under the symbol "LIXT".

Recent Developments

In January and February 2010, the Company raised \$1,787,500 and \$500,000, respectively, through the sale of its securities.

Going Concern

The Company's condensed consolidated financial statements have been presented on the basis that it is a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The Company is in the development stage and has not generated any revenues from operations to date, and does not expect to do so in the foreseeable future. The Company has experienced recurring operating losses and negative operating cash flows since inception, and has financed its working capital requirements through the recurring sale of its equity securities. As a result, the Company's independent registered public accounting firm, in its report on the Company's 2009 consolidated financial statements, has raised substantial doubt about the Company's ability to continue as a going concern.

The Company's ability to continue as a going concern is dependent upon its ability to develop additional sources of capital and to ultimately achieve sustainable revenues and profitable operations. The Company's condensed consolidated financial statements do not include any adjustments that might result from the outcome of these uncertainties.

At March 31, 2010, the Company had not yet commenced any revenue-generating operations. All activity through March 31, 2010 has been related to the Company's formation, capital raising efforts and research and development activities. As such, the Company has yet to generate any cash flows from operations, and is dependent on debt and equity funding from both related and unrelated parties to finance its operations. Prior to June 30, 2006, the Company's cash requirements were funded by advances from the Company's founder aggregating \$92,717.

Because the Company is currently engaged in research at an early stage, it will likely take a significant amount of time to develop any product or intellectual property capable of generating revenues. As such, the Company's business is unlikely to generate any sustainable revenues in the next several years, and may never do so. Even if the Company is able to generate revenues in the future through licensing its technologies or through product sales, there can be no assurance that the Company will be able to generate a profit.

The Company's activities in 2010 will consist of continuing drug discovery and development efforts. The Company's primary goal will be to take the Company's LB-100 compound through a Phase I clinical trial by July 1, 2011. As a result of the recent sale of its securities in November 2009, January 2010 and February 2010, the Company believes that its current resources are adequate to fund operations during the remainder of 2010 and at a minimum through mid-2011, at a level that will allow the continuation of the Company's two drug development programs currently in process and completion of the initial Phase I trial of LB-100, if no unexpected delays occur in obtaining FDA approval, in late 2010 or early 2011.

The amount and timing of future cash requirements will depend on the pace of these programs, in particular, completion of the Phase I trial of LB-100. After completion of the Phase I trial, the next step will be to determine the anti-cancer activity against a particular type of human cancer in Phase II trials. To carry out Phase II trials, the Company anticipates that it will be necessary to raise additional funds in 2011 from a combination of debt or equity financings, and/or the sale, licensing or joint venturing of its intellectual properties. Market conditions present uncertainty as to the Company's ability to secure additional funds, as well as its ability to reach profitability. There can be no assurances that the Company will be able to secure additional financing, or obtain favorable terms on such financing if it is available, or as to the Company's ability to achieve positive earnings and cash flows from operations. Continued negative cash flows and lack of liquidity create significant uncertainty about the Company's ability to fully implement its operating plan beyond July 2011, as a result of which the Company may have to reduce the scope of its planned operations. If cash resources are insufficient to satisfy the Company's liquidity requirements, the Company would be required to scale back or discontinue its technology and product development programs, or obtain funds, if available, through strategic alliances that may require the Company to relinquish rights to certain of its technologies products, or to discontinue its operations entirely.

Recently Accounting Pronouncements

In June 2009, the Financial Accounting Standards Board ("FASB") issued authoritative guidance on accounting standards codification and the hierarchy of generally accepted accounting principles. The FASB Accounting Standards Codification™ ("Codification") has become the source of authoritative accounting principles recognized by the FASB to be applied by nongovernmental entities in the preparation of financial statements in accordance with general accepted accounting principles ("GAAP"). All existing accounting standard documents were superseded by the Codification and any accounting literature not included in the Codification will not be considered authoritative. However, rules and interpretive releases of the Securities and Exchange Commission ("SEC") issued under the authority of federal securities laws will continue to be sources of authoritative GAAP for SEC registrants. The FASB authoritative guidance was effective for interim and annual reporting periods ending after September 15, 2009. Accordingly, all references made by the Company to GAAP in its consolidated financial statements now use the new Codification numbering system. The Codification does not change or alter existing GAAP. The adoption of the Codification by the Company on September 30, 2009 did not have any impact on the Company's consolidated financial statements.

Management does not believe that any other recently issued, but not yet effective, authoritative guidance, if currently adopted, would have a material effect on the Company's consolidated financial statement presentation or disclosures.

Critical Accounting Policies and Estimates

The Company prepared its consolidated financial statements in accordance with accounting principles generally accepted in the United States of America. The preparation of these financial statements requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amount of revenues and expenses during the reporting period. Management periodically evaluates the estimates and judgments made. Management bases its estimates and judgments on historical experience and on various factors that are believed to be reasonable under the circumstances. Actual results may differ from these estimates as a result of different assumptions or conditions.

The following critical accounting policies affect the more significant judgments and estimates used in the preparation of the Company's consolidated financial statements.

Research and Development

Research and development costs are expensed as incurred. Research and development expenses consist primarily of fees paid to consultants and outside service providers, patent fees and costs, and other expenses relating to the acquisition, design, development and testing of the Company's treatments and product candidates.

Amounts due, pursuant to contractual commitments, on research and development contracts with third parties are recorded as a liability, with the related amount of such contracts recorded as advances on research and development contract services on the Company's balance sheet. Such advances on research and development contract services are expensed over their life on the straight-line basis, unless the achievement of milestones, the completion of contracted work, or other information indicates that a different expensing schedule is more appropriate.

Patent Costs

Due to the significant uncertainty associated with the successful development of one or more commercially viable products based on the Company's research efforts and any related patent applications, all patent costs, including patent-related legal and filing fees, are expensed as incurred.

Stock-Based Compensation

The Company periodically issues stock options and warrants to officers, directors and consultants for services rendered. Options vest and expire according to terms established at the grant date.

The Company accounts for share-based payments to officers and directors by measuring the cost of services received in exchange for equity awards based on the grant date fair value of the awards, with the cost recognized as compensation expense in the Company's financial statements over the vesting period of the awards.

The Company accounts for share-based payments to consultants by determining the value of the stock compensation based upon the measurement date at either (a) the date at which a performance commitment is reached or (b) at the date at which the necessary performance to earn the equity instruments is complete.

Options granted to Scientific Advisory Board committee members and outside consultants are revalued each reporting period to determine the amount to be recorded as an expense in the respective period. As the options vest, they are valued on each vesting date and an adjustment is recorded for the difference between the value already recorded and the then current value on the date of vesting.

The fair value of stock-based compensation is affected by several variables, the most significant of which are the life of the equity award, the exercise price of the security as compared to the fair market value of the common stock on the grant date, and the estimated volatility of the common stock over the term of the equity award.

Income Taxes

The Company accounts for income taxes under an asset and liability approach for financial accounting and reporting for income taxes. Accordingly, the Company recognizes deferred tax assets and liabilities for the expected impact of differences between the financial statements and the tax basis of assets and liabilities.

The Company records a valuation allowance to reduce its deferred tax assets to the amount that is more likely than not to be realized. In the event the Company was to determine that it would be able to realize its deferred tax assets in the future in excess of its recorded amount, an adjustment to the deferred tax assets would be credited to operations in the period such determination was made. Likewise, should the Company determine that it would not be able to realize all or part of its deferred tax assets in the future, an adjustment to the deferred tax assets would be charged to operations in the period such determination was made.

Plan of Operation

General Overview of Plans

The Company's original focus was the development of new treatments for the most common and most aggressive type of brain cancer of adults, glioblastoma multiforme ("GBM"), and the most common cancer of children, neuroblastoma. The Company has expanded the scope of its anti-cancer investigational activities to include the most common brain tumor of children, medulloblastoma, and also to several other types of more common cancers. This expansion of activity is based on documentation that each of two distinct types of drugs being developed by the Company has activity against cell lines of breast, colon, lung, prostate, pancreas, ovary, stomach and liver cancer, as well as against the major types of leukemias. LB-100 has now been shown to have activity in animal models of brain tumors of adults and children, and also against melanomas and sarcomas. Studies in animal models of human melanoma, lymphoma, sarcoma, brain tumors, and the rare neuroendocrine cancer, pheochromocytoma, have demonstrated marked potentiation by LB-100 of the anti-tumor activity of the widely used standard chemotherapeutic drugs. These studies confirm that the LB-100 compounds, combined with any of several "standard anti-cancer drugs", have broad activity, affecting many different cell types of cancer. This is unusual and important because these compounds may be useful for treatment of cancer in general.

The research on brain tumors is proceeding in collaboration with the National Institute of Neurological Disorders and Stroke ("NINDS") of the National Institutes of Health ("NIH") under a Cooperative Research and Development Agreement ("CRADA") entered into on March 22, 2006, as amended. The research at NINDS continues to be led by Dr. Zhengping Zhuang, an internationally recognized investigator in the molecular pathology of cancer. Dr. Zhuang is aided by two senior research technicians supported by the Company as part of the CRADA. The goal of the CRADA is to develop more effective drugs for the treatment of GBM through the processes required to gain Food and Drug Administration ("FDA") approval for clinical trials. The Company has entered into an amendment to the CRADA to extend its term from September 30, 2009 through September 30, 2011.

During 2009, the Company signed material transfer agreements with academic investigators at major cancer centers in the United States, as well as with one investigator in China with a unique animal model of a sarcoma, to expand molecular and applied studies of the anti-cancer activity of the Company's compounds. The Company retained the right to all discoveries made in these studies.

The Company's longer-term goal is to secure one or more strategic partnerships with pharmaceutical companies with major programs in cancer, anti-fungal treatments, and/or neuroprotective measures. The Company's immediate focus has shifted to obtaining approval from the FDA to carry a lead compound of the LB-100 series into clinical trial. The Company believes the potent activity of these drugs in combination with standard non-specific chemotherapeutic drugs against a diverse array of common and uncommon cancers of adults and children merits bringing this treatment to patients as rapidly as possible. In addition, the demonstration of clinical benefit would be very important to potential investors and to large pharmaceutical companies looking to add an entirely new approach to their anti-cancer drug pipelines.

The significant diversity of the potential therapeutic value of the Company's compounds stems from the fact that these agents modify critical pathways in cancer cells and in microorganisms such as fungi and appear to ameliorate pathologic processes that lead to brain injury caused by trauma or toxins or through as yet unknown mechanisms that underlie the major chronic neurologic diseases, including Alzheimer's Disease, Parkinson's Disease, and Amyotrophic Lateral Sclerosis (ALS, or Lou Gehrig's Disease). Studies of the potential neuroprotective effects of homologs of each class of the Company's compounds are continuing under a contract with Southern Research Institute, Birmingham, Alabama.

Plans for 2010 and Beyond

The Company's primary objective is to complete studies needed for a successful application to the FDA for an Investigational New Drug ("IND") for the clinical evaluation of LB-100 by the end of the first quarter of 2011. The estimated cost for drug synthesis formulation, pharmacokinetic, and toxicologic studies needed for an IND application has been revised downward to approximately \$1,200,000. Accordingly, the Company believes that it currently has sufficient capital to fund its operations, including the continued development of the LB-200 series and the sponsorship of a Phase I clinical trial of LB-100.

The critical need for the next step in the clinical development of LB-100 is to obtain IND approval from the FDA to administer the drug to patients. In order to do this, the Company must demonstrate that LB-100 can be administered safely to human beings at a dose and at a frequency that achieves the desired pharmacologic effect, in this case inhibition of a specific enzyme, without being associated with toxicities considered unacceptable. A compound that has a mechanism of action similar to that of LB-100 has been given with safety and benefit to cancer patients outside the United States in the past. This compound has a chemical feature which appears to be responsible for most of its toxicity. This feature has been removed from LB-100, making it likely that the Company's compound will be less toxic and, therefore, safer for human use.

With current resources, the Company will further characterize of the anti-cancer and anti-fungal activity of certain homologs of drugs of the LB-200 series. These studies would be done in collaboration with academic partners.

Results of Operations

The Company is a development stage company and had not commenced revenue-generating operations at March 31, 2010.

Three Months Ended March 31, 2010 and 2009

General and Administrative Expenses. For the three months ended March 31, 2010, general and administrative expenses were \$188,579, which consisted of the vested portion of the fair value of stock options issued to directors and consultants of \$72,740, consulting and professional fees of \$103,652, insurance expense of \$6,125, stock transfer fees of \$2,278, travel and entertainment costs of \$610, and other operating costs of \$3,174.

For the three months ended March 31, 2009, general and administrative expenses were \$153,119, which consisted of the vested portion of the fair value of stock options issued to directors and consultants of \$37,514, consulting and professional fees of \$97,145, insurance expense of \$5,955, stock transfer fees of \$3,170, travel and entertainment costs of \$1,401, and other operating costs of \$7,934.

Depreciation. For the three months ended March 31, 2010 and 2009, depreciation expense was \$-0- and \$127, respectively.

Research and Development Costs. For the three months ended March 31, 2010, research and development costs were \$161,872, which consisted of the vested portion of the fair value of stock options issued to a consultant and a vendor of \$19,888, patent costs of \$88,688, laboratory supplies of \$13,000, and other costs of \$40,296.

For the three months ended March 31, 2009, research and development costs were \$125,878, which consisted of the vested portion of the fair value of stock options issued to a consultant and a vendor of \$39,862, patent costs of \$20,766, laboratory supplies of \$9,000, and other costs of \$56,250.

Interest Income. For the three months ended March 31, 2010 and 2009, interest income was \$215 and \$7, respectively.

Net loss. For the three months ended March 31, 2010, the Company incurred a net loss of \$350,236, as compared to a net loss of \$279,569 for the three months ended March 31, 2009.

Liquidity and Capital Resources – March 31, 2010

The Company's condensed consolidated financial statements have been presented on the basis that it is a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The Company is in the development stage and has not generated any revenues from operations to date, and does not expect to do so in the foreseeable future. The Company has experienced recurring operating losses and negative operating cash flows since inception, and has financed its working capital requirements through the recurring sale of its equity securities. As a result, the Company's independent registered public accounting firm, in its report on the Company's 2009 consolidated financial statements, has raised substantial doubt about the Company's ability to continue as a going concern (see "Going Concern" above).

The Company's activities in 2010 will consist of continuing drug discovery and development efforts. The Company's primary goal will be to take the Company's LB-100 compound through a Phase I clinical trial by July 1, 2011. As a result of the recent sale of its securities in November 2009, January 2010 and February 2010, the Company believes that its current resources are adequate to fund operations during the remainder of 2010 and at a minimum through mid-2011, at a level that will allow the continuation of the Company's two drug development programs currently in process and completion of the initial Phase I trial of LB-100, if no unexpected delays occur in obtaining FDA approval, in late 2010 or early 2011.

Operating Activities. For the three months ended March 31, 2010, operating activities utilized cash of \$252,326, as compared to utilizing cash of \$205,822 for the three months ended March 31, 2009.

At March 31, 2010, the Company had a working capital surplus of \$2,130,974, as compared to a working capital surplus of \$1,301,082 at December 31, 2009. The increase in working capital at March 31, 2010 was due primarily to the sale of the Company's securities pursuant to two private placements occurring in January and February 2010 that generated net proceeds of \$1,087,501 reduced by \$1,200,000 of advances on such financing received in December 2009.

Investing Activities. For the three months ended March 31, 2010, investing activities consisted of \$2,050,042 placed into a money market fund. There were no investing activities during the three months ended March 31, 2009.

Financing Activities. For the three months ended March 31, 2010, financing activities provided net cash of \$1,087,500, consisting of the gross proceeds from the sale of securities of \$2,287,500, less \$1,200,000 of advances received through December 31, 2009. For the three months ended March 31, 2009, financing activities provided net cash of \$282,250, consisting of the gross proceeds from the sale of common stock of \$460,000, reduced by the payment of private placement offering costs of \$77,750 and the repayment of a note payable to a consultant of \$100,000.

Principal Commitments

Effective March 22, 2006, the Company entered into a CRADA, as amended, with the NINDS of the NIH. The CRADA is for a term of 66 months from the effective date and can be unilaterally terminated by either party by providing written notice within sixty days. The CRADA provides for the collaboration between the parties in the identification and evaluation of agents that target the Nuclear Receptor CoRepressor (N-CoR) pathway for glioma cell differentiation. The CRADA also provides that NINDS and the Company will conduct research to determine if expression of N-CoR correlates with prognosis in glioma patients. Pursuant to the CRADA, the Company initially agreed to provide funds under the CRADA in the amount of \$200,000 per year to fund two technical assistants for the technical, statistical and administrative support for the research activities, as well as to pay for supplies and travel expenses. The first \$200,000 was due within 180 days of the effective date and was paid in full on July 6, 2006. The second \$200,000 was paid in full on June 29, 2007. In June 2008, the CRADA was extended to September 30, 2009, with no additional funding required for the period between July 1, 2008 and September 30, 2008. For the period from October 1, 2008 through September 30, 2009, the Company agreed to provide additional funding under the CRADA of \$200,000, to be paid in four quarterly installments of \$50,000 each commencing on October 1, 2008. The first and second quarterly installments of \$50,000 were paid on September 29, 2008 and March 5, 2009, respectively. During August 2009, the Company entered into an amendment to the CRADA to extend its term from September 30, 2009 through September 30, 2011. Pursuant to such amendment, the Company has agreed to aggregate payments of \$100,000 in two installments of \$50,000 payable on October 1, 2010 and January 5, 2011, inclusive of any prior unpaid commitments.

On February 5, 2007, the Company entered into a two-year agreement pursuant to which the Company engaged Chem-Master to synthesize a compound designated as "LB-1", and any other compound synthesized by Chem-Master pursuant to the Company's request, which have potential use in treating a disease, including, without limitation, cancers such as glioblastomas. Pursuant to the Chem-Master Agreement, the Company agreed to reimburse Chem-Master for the cost of materials, labor, and expenses for other items used in the synthesis process, and also agreed to grant Chem-Master a five-year option to purchase shares of the Company's common stock. The Company has the right to terminate the Chem-Master Agreement at any time during its term upon sixty days prior written notice.

On January 29, 2008, the Chem-Master Agreement was amended to extend its term to February 15, 2014, and to expressly provide for the design and synthesis of a new series of compounds designated as "LB-3". Pursuant to the Chem-Master Agreement, as amended, the Company reimbursed Chem-Master for the costs of materials, labor, and expenses aggregating \$13,000 and \$9,000 during the three months ended March 31, 2010 and 2009, respectively.

Effective as of September 19, 2008, the Company entered into an agreement with the NIH providing the Company with an exclusive license for all patents submitted jointly with the NIH under the CRADA. The agreement provided for an initial payment of \$25,000 to NIH within 60 days of September 19, 2008, and for a minimum annual royalty of \$30,000 on January 1 of each calendar year following the year in which the CRADA is terminated. The agreement also provides for the Company to pay specified royalties based on (i) net sales by the Company and its sub-licensees, (ii) the achievement of certain clinical benchmarks, and (iii) the granting of sublicenses. The Company paid the initial \$25,000 obligation on November 10, 2008 and charged the amount to general and administrative costs during the year ended December 31, 2008.

On October 9, 2008, the Company engaged Southern Research Institute, Birmingham, Alabama, to assess one lead compound from each of two classes of its proprietary pharmacological agents for effects on normal neuronal cells and to determine if the compounds protect normal brain cells from injury in several different models of chemical and traumatic brain injury. The goal is to determine if these agents have promise as potentially useful for the prevention, amelioration or delay of progression of neurodegenerative diseases such as Alzheimer's disease and other neurological diseases or impairments resulting from trauma and/or other diverse or unknown origins. The Company agreed to pay a fee not to exceed a total of \$50,000 for such services, all of which had been paid as of December 31, 2009.

On December 23, 2009, the Company's agreement with Southern Research Institute was amended to include certain additional studies of neurodegenerative diseases at an additional estimated cost of \$21,200.

On January 5, 2010, the Company engaged Southern Research Institute to perform several of the pre-clinical studies of LB-100 needed for an Investigational New Drug ("IND") application at a total estimated cost of \$109,800, of which \$48,045 had been paid as of March 31, 2010.

On November 17, 2009, the Company entered into an agreement with Johnson Matthey Pharma Services for the preparation of drug materials at a total estimated cost of \$45,500, of which \$8,125 had been paid as of March 31, 2010.

On March 17, 2010, the Company engaged Theradex to assist the Company in bringing LB-100 through the FDA approval process at a total estimated cost of \$105,064.

On April 15, 2010, the Company entered into an agreement with Ascentage Pharma Group to assist in the pharmacological characterization of the Company's proprietary compounds at a total estimated cost of \$30,000. Ascentage Pharma Group is an offshoot of Ascenta Therapeutics, of which Dr. Mel Sorensen, a director of the Company, is the President and Chief Executive Officer and a director. Ascentage Pharma Group and Ascenta Therapeutics have a continuing business relationship and certain common shareholders. However, Dr. Sorensen does not have any direct business relationship with or ownership in Ascentage Pharma Group.

The following table sets forth the Company's principal cash obligations and commitments for the next five fiscal years as of March 31, 2010 aggregating \$492,111, of which \$222,748 is included in current liabilities in the condensed consolidated balance sheet at March 31, 2010.

	Total	Payments Due By Year	
		2010	2011
CRADA	\$ 100,000	\$ 50,000	\$ 50,000
Research and development contracts	225,394	225,394	—
Liquidated damages payable under registration rights agreement	74,000	74,000	—
Due to stockholder	92,717	92,717	—
Total	\$ 492,111	\$ 442,111	\$ 50,000

Off-Balance Sheet Arrangements

At March 31, 2010, the Company did not have any transactions, obligations or relationships that could be considered off-balance sheet arrangements.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURE ABOUT MARKET RISK

Not applicable.

ITEM 4T. CONTROLS AND PROCEDURES

(a) Evaluation of Disclosure Controls and Procedures

The Company carried out an evaluation, under the supervision and with the participation of its management, including its principal executive officer and principal financial officer (who is the same individual), of the effectiveness of the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act (defined below)). Based upon that evaluation, the Company's principal executive officer and principal financial officer concluded that, as of the end of the period covered in this report, the Company's disclosure controls and procedures were effective to ensure that information required to be disclosed in reports filed under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), is recorded, processed, summarized and reported within the required time periods and is accumulated and communicated to the Company's management, including the Company's principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure.

The Company's management, including its principal executive officer and principal financial officer, does not expect that its disclosure controls and procedures or its internal controls will prevent all error or fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints and the benefits of controls must be considered relative to their costs. Due to the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. Accordingly, management believes that the financial statements included in this report fairly present in all material respects the Company's financial condition, results of operations and cash flows for the periods presented.

(b) Changes in Internal Controls Over Financial Reporting

In addition, the Company's management, with the participation of its principal executive officer and principal financial officer, has determined that no change in the Company's internal control over financial reporting (as that term is defined in Rules 13(a)-15(f) and 15(d)-15(f) of the Securities Exchange Act of 1934) occurred during or subsequent to the end of the period covered in this report that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II - OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

The Company is currently not a party to any pending or threatened legal proceedings.

ITEM 1A. RISK FACTORS

Not applicable.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

Effective January 20, 2010, the Company raised \$1,787,500 in a fifth private placement of units sold to certain of its existing stockholders or their designees, all of whom were accredited investors, consisting of an aggregate of 3,575,000 units at a purchase price of \$0.50 per unit. Each unit consisted of one share of common stock, one three-year warrant to purchase a share of common stock at an exercise price of \$0.50 per share, and one three year-year warrant to purchase a share of common stock at an exercise price of \$0.75 per share. The units sold were not registered under the Securities Act of 1933, as amended (the "Act"), in reliance upon the exemption from registration contained in Section 4(2) of the Act and Regulation D promulgated thereunder.

Effective February 22, 2010, the Company raised \$500,000 through the sale to an accredited investor of 1,000,000 units at a purchase price of \$0.50 per unit. Each unit consisted of one share of common stock, one three-year warrant to purchase a share of common stock at an exercise price of \$0.50 per share, and one three year-year warrant to purchase a share of common stock at an exercise price of \$0.75 per share. The units sold were not registered under the Act, in reliance upon the exemption from registration contained in Section 4(2) of the Act and Regulation D promulgated thereunder.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

Not applicable.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

Not applicable.

ITEM 5. OTHER INFORMATION

Effective April 20, 2010, Stephen Carter resigned from the Company's Board of Directors for personal reasons.

ITEM 6. EXHIBITS

A list of exhibits required to be filed as part of this report is set forth in the Index to Exhibits, which is presented elsewhere in this document, and is incorporated herein by reference.

SIGNATURES

In accordance with the requirements of the Securities and Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

LIXTE BIOTECHNOLOGY HOLDINGS, INC.

(Registrant)

Date: May 3, 2010

By: /s/ JOHN S. KOVACH

John S. Kovach
Chief Executive Officer and
Chief Financial Officer
(Principal financial and accounting officer)

INDEX TO EXHIBITS

Exhibit Number	Description of Document
31.1	Officer's Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. (1)
32.1	Officer's Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. (1)
(1)	Filed herewith.

**CERTIFICATIONS OF THE CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL
OFFICER UNDER SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, John S. Kovach, Chief Executive Officer and Chief Financial Officer of Lixte Biotechnology Holdings, Inc., certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2010 of Lixte Biotechnology Holdings, 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. I am responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and I have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under my supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to me by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under my 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 my 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 (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. I have disclosed, based on my 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: May 3, 2010

By: /s/ JOHN S. KOVACH
John S. Kovach
Chief Executive Officer and
Chief Financial Officer

**CERTIFICATIONS OF THE CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL
OFFICER UNDER SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the filing by Lixte Biotechnology Holdings, Inc. (the "Registrant") of its Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2010 (the "Quarterly Report") with the Securities and Exchange Commission, I, John S. Kovach, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (i) The Quarterly Report fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and
- (ii) The information contained in the Quarterly Report fairly presents, in all material respects, the financial condition and results of operations of the Registrant.

A signed original of this written statement required by Section 906 has been provided to the Registrant and will be retained by the Registrant and furnished to the Securities and Exchange Commission or its staff upon request.

Date: May 3, 2010

By: /s/ JOHN S. KOVACH
John S. Kovach
Chief Executive Officer and
Chief Financial Officer
