

Amarantus Bioscience Holdings, Inc.
Form 10-K
April 21, 2014

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

ANNUAL REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2013

TRANSITION REPORT UNDER SECTION 13 OR 15(d) OF THE EXCHANGE ACT

For the transition period from _____ to _____

333-148922

(Commission file number)

Amarantus BioScience Holdings, Inc.

(Exact name of registrant as specified in its charter)

Nevada

(State or other jurisdiction of incorporation or organization)

26-0690857

(IRS Employer Identification No.)

c/o Janssen Labs@QB3

953 Indiana Street

San Francisco, CA 94107

(Address and telephone number of principal executive offices)

Not Applicable

(Former name, former address and former fiscal year, if changed since last report)

Securities registered pursuant to Section 12(b) of the Act: None

Securities registered pursuant to Section 12(g) of the Act: Common Stock, par value \$0.001 per share

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act.

Yes No

Indicate by check mark whether the issuer (1) filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act during the past 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 such shorter period that the registrant was required to submit and post such files).

Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statement

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incorporated by reference in Part III of this Form 10-K or amendment to this Form 10-K. Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a small reporting company. See definitions of "large accelerated filer," "accelerated filer," and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

(Do not check if a 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

The aggregate market value of the voting and non-voting common equity held by non-affiliates as of June 30, 2013, was \$13,212,917

As of April 18, 2014, there were 715,072,890 shares of common stock outstanding

AMARANTUS BIOSCIENCE HOLDINGS, INC.

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PART I

Forward-Looking Statements

This Annual Report on Form 10-K (including the section regarding Management's Discussion and Analysis or Plan of Operation) contains forward-looking statements regarding our business, financial condition, results of operations and prospects. Words such as "expects," "anticipates," "intends," "plans," "believes," "seeks," "estimates" and similar expressions or variations of such words are intended to identify forward-looking statements, but are not deemed to represent an all-inclusive means of identifying forward-looking statements as denoted in this Annual Report on Form 10-K. Additionally, statements concerning future matters are forward-looking statements.

Although forward-looking statements in this Annual Report on Form 10-K reflect the good faith judgment of our Management, such statements can only be based on facts and factors currently known by us. Consequently, forward-looking statements are inherently subject to risks and uncertainties and actual results and outcomes may differ materially from the results and outcomes discussed in or anticipated by the forward-looking statements. Factors that could cause or contribute to such differences in results and outcomes include, without limitation, those specifically addressed under the heading "Risks Factors" below, as well as those discussed elsewhere in this Annual Report on Form 10-K. Readers are urged not to place undue reliance on these forward-looking statements, which speak only as of the date of this Annual Report on Form 10-K. We file reports with the Securities and Exchange Commission ("SEC"). Our electronic filings with the United States Securities and Exchange Commission (including our Annual Reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K, and any amendments to these reports) are available free of charge on the Securities and Exchange Commission's website at <http://www.sec.gov>. You may also read and copy any document we file at the SEC's Public Reference Room at 100 F Street, N.E., Room 1580, Washington D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the Public Reference Room.

We undertake no obligation to revise or update any forward-looking statements in order to reflect any event or circumstance that may arise after the date of this Annual Report on Form 10-K, except as required by law. Readers are urged to carefully review and consider the various disclosures made throughout the entirety of this Annual Report, which are designed to advise interested parties of the risks and factors that may affect our business, financial condition, results of operations and prospects.

Item 1. Description of Business

Company Overview

Amarantus Bioscience Holdings, Inc. ("the Company") is a California-based development-stage biopharmaceutical company founded in January 2008. We focus on developing our intellectual property and proprietary technologies to develop drug and diagnostic product candidates to treat human disease. We own or have exclusive licenses to various product candidates in the biopharmaceutical and diagnostic areas of the healthcare industry, with a specific focus on bringing this candidates to market in the areas of Alzheimer's disease, Parkinson's disease, Retinal Degenerative disorders, and other ailments of the human body, with a particular focus on the nervous system. Our business model is to develop our product candidates through various de-risking milestones that we believe will be accretive to shareholder value and strategically partner with biopharmaceutical companies, diagnostic companies, investors, private foundations and other key stakeholders in the specific sub-sector of the healthcare industry in which we are developing our products in order to achieve regulatory approval in key jurisdictions and thereafter successfully market and distribute our products.

Principal Products in Development

The Company's philosophy is to acquire, in-license, discover and develop drug candidates and diagnostics with the potential to address critically important biological pathways involved in human disease.

LymPro Test ®

The Lymphocyte Proliferation Test (“LymPro Test ®”, or “LymPro”) is a diagnostic blood test for Alzheimer’s disease originally developed by the University of Leipzig in Germany. The test works by evaluating the cell surface marker CD69 on peripheral blood lymphocytes following a mitogenic stimulation. The underlying scientific basis for LymPro is that Alzheimer’s patients have a dysfunctional cellular machinery that inappropriately allows mature neurons in the brain to enter the mitotic process (cell division /cell cycle). When this happens the neurons start the cell division process, but cannot complete that process. As a result, a number of cytokines and other genes are upregulated, ultimately leading to cell death by apoptosis. This inappropriate cell division activation process is also present in the lymphocytes of Alzheimer’s patients, as lymphocytes share a similar cellular division machinery with brain neurons. We measure the integrity of this cellular division machinery process by measuring CD69 upregulation in response to the mitogenic stimulation. If CD 69 is upregulated it means that the cellular division machinery process is correct and Alzheimer’s is not present. If CD69 is not upregulated, it means there is a dysfunctional cellular division machinery process, and Alzheimer’s is more likely. To date, data has been published in peer-reviewed publications on LymPro with 160 patients, demonstrating 92% co-positivity and 91% co-negativity with an overall 95% accuracy rating for LymPro.

Eltoprazine

Eltoprazine is a small molecule drug candidate that is a selective partial agonist on the 5HT1-A and 5HT1-B receptors of the serotonergic system in the brain originally discovered and developed by Solvay Pharmaceuticals (now Abbvie). The serotonergic system has been associated with a wide range of disorders motor and behavioral disorders including aggression, cognition, attention and control. The Company is developing Eltoprazine for the treatment of the primary side effect of current Parkinson’s disease medication Levodopa-Induced Dyskinesia (“PD LID”), as well as Adult Attention Deficit Hyperactivity Disorder (“Adult ADHD”). To date, over 700 patients have been dosed with Eltoprazine at varying doses as high as 30mg; the active dose in both PD LID and Adult ADHD is 5mg. Primary and secondary endpoints have been met for Eltoprazine in Phase 2 trials in PD LID and Adult ADHD.

MANF

Mesencephalic Astrocyte-derived Neurotrophic Factor (“MANF”) is an endogenous, evolutionally conserved and widely expressed protein that was discovered by the Company’s Chief Scientific Officer Dr. John Commissiong. MANF acts on a variety of molecular functions, including as a part of the endoplasmic reticulum stress response (“ER-SR”) system of the unfolded protein response (“UPR”). MANF has demonstrated efficacy as a disease-modifying treatment in various animal models, including Parkinson’s disease, retinitis pigmentosa, cardiac ischemia and stroke. The Company has made a strategic decision to focus the development of MANF in orphan indications and is currently evaluating the most appropriate indication for development based on data currently being assembled internally, by contract research organizations and academic collaborators.

Since inception, the Company's research team has been focused on developing MANF as a therapeutic for Parkinson's disease, and other apoptosis-related disorders. The Company's business plans are focused in these specific areas:

Other

Exploration of the Company's PhenoGuard platform for neurotrophic factor discovery and discovery and evaluation of external drug candidates for potential in-licensure or acquisition.

For the next 12 months, the Company intends to focus primarily on the commercialization of LymPro, the further clinical development of Eltoprazine, and the preclinical development of MANF.

Recent Developments

Eltoprazine In-License Agreement

Effective January 14, 2014, the Company entered into a License Agreement with PGI Drug Discovery, LLC ("PGI"), pursuant to which the Company was granted an exclusive license (with a right to sublicense) to utilize certain Licensed Compounds and Licensed Products (as each is defined in the License Agreement) of PGI, which includes certain intellectual property covering the use of Eltoprazine and certain of its related compounds in all therapeutic indications

Pursuant to the terms of the license agreement, the Company has agreed to: (i) pay PGI \$100,000 in cash for the License within 20 days of the execution of the License Agreement, (ii) pay PGI up to an aggregate of \$4 million in development milestones through NDA submission, (iii) pay a research support payment to PGI as partial reimbursement for costs incurred for earlier research and management of CIAS, ADHD and levodopa induced dyskinesia (LID) clinical trials totaling up to \$650,000 to be paid in a mixture of cash and stock, and (iv) reimburse PGI for the Eltoprazine clinical supply inventory up to \$500,000 payable upon the earlier of the initiation of a Phase IIb clinical study or 6 months after the date of the License Agreement. As further consideration for the License Agreement, the Company shall pay a single digit royalty to PGI of the annual worldwide aggregate net sales by the Company.

Simultaneous with the execution of the license agreement, the Company and PGI entered into a Services Agreement pursuant to which PGI will provide certain services to the Company related to PGI's proprietary analytical systems as will be set forth in certain study plans. The Company agreed to a payment commitment of \$450,000 at a minimum annual rate of \$150,000 for each of three years. The Services Agreement is for a term of the later of 3 years or the completion of any study plan accepted by the parties under the Services Agreement.

As partial consideration of the research support payment by the Company to PGI, the Company entered into a Securities Purchase Agreement with PGI, pursuant to which PGI subscribed for 4,000,000 shares of the Company's common stock and the Company granted PGI certain piggy-back registration rights.

MANF In-License Option Agreement

On February 28, 2014, the Company entered into an Option Agreement with the University of Massachusetts pursuant to which the Company was granted an option to obtain an exclusive license (with the right to sublicense) in the patent applications to be filed based upon UMA 14-006 titled "MANF as a Therapeutic Agent for the production of Mammalian Sensory Cells". The term of the option is 18 months which may be extended by the Company for an additional six months upon demonstration to UMass of continued progress evaluating the business opportunity with respect to the patent rights and payment of a fee to the University. In consideration for the grant of the option, the Company paid an option fee of \$1,000 and shall pay a retainer fee of \$15,000 to cover initial patent expenses to be incurred in connection with obtaining the patent rights.

Common Stock Purchase Agreement

On March 7, 2014 the Company signed a \$20 million purchase agreement with Lincoln Park Capital Fund, LLC an Illinois limited liability company. Upon signing the purchase agreement Lincoln Park Capital Fund agreed to purchase 4,000,000 shares of our common stock for \$400,000 as an initial purchase under the agreement. We also entered into a

registration rights agreement with Lincoln Park Capital Fund whereby we agreed to file a registration statement related to the transaction with the SEC covering the shares that may be issued to Lincoln Park Capital Fund under the purchase agreement within ten days after the date the Company files this annual report on Form 10-K with the SEC. After the SEC has declared effective the registration statement related to the transaction, we have the right, in our sole discretion, over a 30-month period to sell up to an additional \$19.6 million of our common stock to Lincoln Park Capital Fund in amounts up to \$500,000 per sale, depending on certain conditions as set forth in the Purchase Agreement. There are no upper limits to the price Lincoln Park Capital Fund may pay to purchase our common stock and the purchase price of shares of Common Stock sold pursuant to the Purchase Agreement will be based on prevailing market prices of our Common Stock at the time of sales without any fixed discount, and the Company will control the timing and amount of any sales of Common Stock to Lincoln Park Capital Fund. In addition, the Company may direct Lincoln Park Capital Fund to purchase additional amounts as accelerated purchases if on the date of a regular purchase the closing sale price of the Common Stock is not below the threshold price as set forth in the purchase agreement. Lincoln Park Capital Fund shall not have the right or the obligation to purchase any shares of our common stock on any business day that the price of our common stock is below the floor price as set forth in the purchase agreement.

The purchase agreement contains customary representations, warranties, covenants, closing conditions and indemnification and termination provisions by, among and for the benefit of the parties. Lincoln Park Capital Fund has covenanted not to cause or engage in any manner whatsoever, any direct or indirect short selling or hedging of the Company's shares of common stock. In consideration for entering into the \$20 million agreement, we issued to Lincoln Park Capital Fund 6,000,000 shares of our common stock and may issue up to an additional 3,500,000 shares pro rata if and when we sell to Lincoln Park Capital Fund up to an additional \$19.6 million of our common stock. The agreement may be terminated by us at any time at our discretion without any monetary cost to us. Actual sales of shares of Common Stock to Lincoln Park Capital Fund under the agreement will depend on a variety of factors to be determined by the Company from time to time, including (among others) market conditions, the trading price of the Common Stock and determinations by the Company as to available and appropriate sources of funding for the Company and its operations. The proceeds received by the Company under the agreement are expected to be used for product development, commercialization, strategic acquisitions, and general corporate purposes.

Warrant

On March 7th, the Company accepted elections to exercise certain warrants in the aggregate amount of 60,000,000 shares of common stock for gross proceeds of \$3,600,000. The total proceeds from the transaction were received by the Company in the first quarter of 2014. Pursuant to the offer to exercise dated February 13, 2014 as supplemented on March 6, 2014, the holders of outstanding warrants to purchase shares of common stock of the Company at a price of \$0.06 (the "Original Warrants") were offered the opportunity to exercise their Original Warrants and receive warrants (the "New Warrants") to purchase three (3) shares of common stock of the Company for every four (4) Original Warrants exercised. The New Warrants are exercisable at a price of \$0.12 for a term of five (5) years. The New Warrants are callable by the Company if the Volume Weighted Average Price of the Company's common stock for each of 20 consecutive trading days exceeds \$0.18 and certain equity conditions are met. The Company may also call the New Warrants if the closing price of the Company's common stock exceeds \$0.18 on the date that is the earlier of the receipt by the Company of an approval letter for listing of the Company's common stock on an exchange or listing of the common stock on an exchange. The holders of the New Warrants will also have piggyback registration rights. Upon the closing of the offer to exercise the Company issued New Warrants to purchase 45,000,000 shares of common stock of the Company.

MARKET

Alzheimer's Disease

Alzheimer's disease (AD) is a chronic neurodegenerative disorder affecting millions of people worldwide. It is the number one form of dementia in the world, where dementia encompasses a variety of causes in which the cells of the brain no longer function properly. The risk of being afflicted with AD increases with age, with one in nine people over the age of 65 having the disease. The prevalence of the disease is approximately 5.2 million individuals in the US

suffer from AD in 2013, with only half those people with a physician's diagnosis. On the other hand, the incidence (or rate at which new cases of disease develop) is age dependent with approximately 53 new cases per 1,000 people age 65 to 74, to 170 new cases per 1,000 people age 75 to 84, to 231 new cases per 1,000 people age 85 and older. [aa2013:108] with 454,000 new cases occurring in 2010 [Alzheimer's Association, 2013 Alzheimer's Disease Facts and Figures, Alzheimer's & Dementia, Volume 9, Issue 2]. AD is the sixth leading cause of death across all ages in the United States [AA2013: 113], and its prevalence is expected to quadruple by 2050. Unfortunately compared to cardiovascular disease, stroke, prostate and breast cancers, AD is the only cause of death increasing, and increasing fast with an estimated 68% change in death from 2000 to 2010. In 2012, 15.4 million caregivers provided an estimated 17.5 billion hours of unpaid care, valued at more than \$216 Billion. [aa2013, p30]. It is estimated that the cost of caring for people with AD and other dementia's will rocket northwards from an estimated \$203 Billion in 2013 to a projected \$1.2 Trillion per year by 2050 with Medicare and Medicaid covering approximately 70% of costs.

The cause and progression of Alzheimer's disease are not well understood. Research indicates that the disease is associated with plaques and tangles in the brain. Current treatments only help with the symptoms of the disease. There are no available treatments that stop or reverse the progression of the disease. As of 2012, more than 1000 clinical trials have been or are being conducted to find ways to treat the disease, but it is unknown if any of the tested treatments will work. Mental stimulation, exercise, and a balanced diet have been suggested as ways to delay cognitive symptoms (though not brain pathology) in healthy older individuals, but there is no conclusive evidence supporting an effect. Because AD cannot be cured and is degenerative, the sufferer relies on others for assistance. The role of the main caregiver is often taken by the spouse or a close relative. Alzheimer's disease is known for placing a great burden on caregivers; the pressures can be wide-ranging, involving social, psychological, physical, and economic elements of the caregiver's life. In developed countries, AD is one of the most costly diseases to society.

According to the Alzheimer's Disease Foundation. It is widely accepted that with the increasing trend towards a longer lifespan coupled with the baby-boomer population approaching retirement, the incidence of Alzheimer's disease is likely to double in the next 20 years.

Parkinson's Disease

Parkinson's disease (PD) is a severe neurological disorder characterized by tremor, muscle rigidity, and an inability to walk with a steady gait. PD was first reported by James Parkinson in 1817. It is currently widely accepted that PD is primarily associated with the degeneration of a specific set of dopaminergic (DA) neurons in the human brain located in the midbrain. According to the NIH, symptoms begin to appear when 60-80% of these DA neurons have become dysfunctional or have died. Humans have roughly 1 million of these critical DA neurons in the midbrain that play a vital role in controlling motor functions such as walking, stability and overall muscle control. DA neurons release the neurotransmitter dopamine, which plays a critical role in motor function. When a person is diagnosed with PD, roughly 600,000 to 800,000 of these DA neurons have already degenerated or have died. The remaining DA neurons continue to degenerate as PD progresses until such a time when there aren't enough DA neurons left for the body to function. PD progresses at different rates in different patients. Ultimately, every patient becomes incapable of functioning independently at a certain point in the progression of his or her PD. According to the NIH, it is estimated that at least 500,000 people are afflicted with this disorder in the United States. PD generally affects patients later in life, with an average onset age of 60. NIH estimates the total cost to the nation exceeds \$6 Billion annually.

According to a 2008 report generated by DataMonitor, there are over 1.5 million PD in the United States, Western Europe and Japan spending in excess of \$3 billion annually on treatments. It is widely accepted that with the increasing trend towards a longer lifespan coupled with the baby-boomer population approaching retirement, the incidence of Parkinson's disease is likely to double in the next 20 years.

Attention Deficit Hyperactivity Disorder

Attention deficit hyperactivity disorder (ADHD) is a psychiatric disorder of the neurodevelopmental type in which there are significant problems of attention, hyperactivity, or acting impulsively that are not appropriate for a person's age. These symptoms must begin by age six to twelve and be present for more than six months for a diagnosis to be made. In school-aged individuals the lack of focus may result in poor school performance. The condition can be difficult to tell apart from other disorders as well as that of high normal activity. ADHD management usually involves some combination of counseling, lifestyle changes, and medications. Medications are only recommended as a first-line treatment in children who have severe symptoms and may be considered for those with moderate symptoms who either refuse or fail to improve with counseling. Long term effects of medications are not clear and they are not recommended in preschool-aged children. Adolescents and adults tend to develop coping skills which make up for some or all of their impairments. ADHD and its diagnosis and treatment have been considered controversial since the 1970s. The controversies have involved clinicians, teachers, policymakers, parents and the media. Topics include ADHD's causes, and the use of stimulant medications in its treatment. Most healthcare providers accept ADHD as a genuine disorder with debate in the scientific community mainly around how it is diagnosed and treated. It is estimated that the ADHD market worldwide approaches \$8 Billion annually.

Retinitis Pigmentosa

Retinitis Pigmentosa refers to a group of inherited diseases causing retinal degeneration. The cell-rich retina lines the back inside wall of the eye and is responsible for capturing images from the visual field. People with RP experience a gradual decline in their vision because photoreceptor cells (rods and cones) die. Symptoms include a progressive degeneration of peripheral and night vision as well as the degeneration in color perception and central vision; night blindness is one of the earliest and most frequent symptoms of RP. RP is typically diagnosed in adolescents and young adults. The rate of progression and degree of visual loss varies from person to person. Most people with RP are legally blind by age 40. It is estimated that the market opportunity for Retinitis Pigmentosa exceeds \$10B annually.

Wolfram Syndrome

Wolfram syndrome, also called DIDMOAD (Diabetes Insipidus, Diabetes Mellitus, Optic Atrophy, and Deafness), is a rare genetic disorder, causing diabetes mellitus, optic atrophy, and deafness as well as various other possible disorders. It was first described in four siblings in 1938 by Dr. Don J. Wolfram, M.D. The disease affects the brain and central nervous system. It is thought to be caused by both a malfunction of the mitochondria and of myelination, the latter in effect similar to multiple sclerosis. It may have autosomal recessive or dominant or mitochondrial inheritance depending on the genes involved. There are approximately 300 patients worldwide with Wolfram Syndrome. The first symptom is typically diabetes mellitus, which is usually diagnosed around the age of 6. The next symptom to appear is often optic atrophy, the wasting of optic nerves, around the age of 11. The first signs of this are loss of colour vision and peripheral vision. The condition worsens over time, and people with optic atrophy are usually blind within 8 years of the first symptoms. Life expectancy of people suffering from this syndrome is about 30 years. The diabetes of Wolfram patients is typically managed using insulin and other typical diabetes medical. The retinal and otology aspects of Wolfram's typically go untreated. It is estimated that the market opportunity for Wolfram's disease exceeds \$15Million annually.

DEVELOPMENT PLAN

The Company intends to commercialize LymPro as a Laboratory Developed Test ("LDT") under the Clinical Laboratory Improvement Amendments ("CLIA") in the second half of 2014 in the United States. As part of the commercialization process, the Company is actively evaluating its options with respect to appropriate CLIA labs, as it does not intend to build its own laboratory for this purpose. Thereafter, the Company will evaluate its options with respect to ex-US commercialization of LymPro as well as ultimate FDA approval and marketing of LymPro in the United States. The Company is currently establishing its commercial supply-chain for LymPro's commercialization.

The Company intends initiate Phase 2 or Phase 3 clinical studies for Eltoprazine in the areas of PD LID and/or Adult ADHD in 2014 based on assessments the Company is currently conducting. The Company is currently sourcing contract manufacturers for clinical-grade material of Eltoprazine and is establishing study designs for the initiation of our next clinical studies. In addition, the Company has sourced the necessary vendors to allow the Company to be in compliance with worldwide regulatory standards.

The Company intends to continue the development of MANF, with a specific view towards orphan indications. The Company will continue the development of MANF in the areas of retinitis pigmentosa, Parkinson's disease, and Wolfram Syndrome..

COMPETITION

LymPro Alzheimer's disease Diagnostics

The competitive landscape (from most to least invasive procedure/process):

1.1. Cerebrospinal Fluid (CSF)

CSF samples and protein assays of particular analytes remain today the best tools in the diagnosis of Alzheimer's disease and encephalitis. Unfortunately, the procedure involves a lumbar puncture - the insertion of a hollow cannula or needle into the lower spinal column in order to collect 5-10 ml of blood free CSF. Most patients find the thought of a lumbar puncture procedure troubling. Additionally, many who undergo lumbar puncture procedures find the procedure painful, and unfortunately until recently there haven't been any in vitro diagnostic quality assays available to replace the lumbar puncture diagnostic procedure (until Saladax / Ortho Clinical Diagnostics or Roche Diagnostics releases their publically report CSF Ab42 and CSF Tau assays).

1.2. Positron Emission Tomography (PET)

These large multi-million dollar cameras collect the radioactive decay of minute quantities of hot radioactive tracers that are injected into the blood stream and which give off correlated photo pairs indicating where the tracer is staining tissue in vivo. FDG-PET is an FDA approved tracer which measures glucose metabolism and has been successfully used to image brain energy consumption. More recently Amyvid from Avid Radiopharmaceuticals, now Lilly Diagnostics received FDA approval as a radiotracer to in vivo label the amyloid plaques of the brain. Unfortunately, these studies cost \$3,000-\$5,000 per imaging session per patient and aren't accessible to mobile and portable sites of use. Expensive detectors with costly reagents that aren't widely available are not a viable path forward given the pending health care cost reduction initiatives.

1.3. Magneto encephalography (MEG)

These huge and costly instruments employ advanced superconducting magnets near absolute zero temperatures to measure minute currents of the brain. They are fantastic instruments of technology but are scarcely available in the US and Japan, let alone any other country in the world. They are great research tools and Amaranthus may try to collaborate with researchers using them in investigations - but they will likely never become commonplace in clinical practice in their present form.

1.4. Magnetic Resonance Imaging (MRI)

These commonplace instruments are able to measure the gross anatomy of the brain within the skull with resolution approaching 100 microns in a standard 1.5T clinical MRI. Although they are costly and accessible only at an imaging center (in patient or outpatient), they are standard of care to insure that there is no gross brain tumor or evidence of white matter infarct, typical after sub-clinical or mini strokes have occurred. In one costly modality, functional MRI is conducted whereby a patient is given tasks to complete while they are lying in a MRI brain scanner and asked to participate in task based maneuvers to understand which anatomical structures are active during which dynamic task. These expensive studies are difficult to implement well as motion artifacts and noise are a challenge. In routine clinical practice, they are not commonly conducted.

1.5. Blood

Blood is the ultimate biological specimen. The entire AD community would love to find blood based biomarkers and thus diagnostics of the brain yet there is one major hurdle that no one has yet to solve. Mother Nature created the Blood Brain Barrier to provide a protective barrier from internal insult within a host. No one has compellingly shown that a peripheral measure in the blood is truly diagnostic of what is going on within the privileged compartment of the brain and the central nervous system. For this reason, discovery of blood based biomarkers for Alzheimer's are probable at best. The necessary verification and validation of any of those markers by several groups at arm's length

has not yet occurred and a lot of research will be required to demonstrate that the peripheral measure in the blood is meaningfully reflective of the brain and CNS.

1.6. Electro encephalography (EEG)

EEG is well known now for nearly a century since Hans Burger in 1928 discovered the surface potentials on the scalp. In contrast to most other neuro imaging techniques, EEG is trying to make movies of the brain to capture dynamics, not take static snapshots with long periodicity between them. Unfortunately, over 80%-90% of the peer reviewed EEG literature is constrained by the request to record the human subject in a “resting state eyes open” or “resting state eyes closed” condition. Recordings consist of typically, 20, 32, 64 or 128 electrodes and span a twenty minute sample of time. Unfortunately, the brain can’t rest for 20 minutes let alone even 1 minute as it wanders off and thinks about other activities. For these reasons, we believe the attempts to use EEG diagnostically have failed and will continue to fail until one activates the brain in the attempt to find and measure characteristic EEG biomarker features of one brain state versus another.

1.7. Cognition

There are many companies creating cognitive assessments of a human subject from a neuropsychological perspective. Many of these are quite good, including the CogState battery of tasks, the CNS Vital Signs, the CANTAB battery. This said, all of these computer cognition assessment tools are plagued by significant limitations on their ability to accurately and objectively measurement brain function. Equally importantly, they are prone to subject bias as they require cooperation from the participant and can be fooled by human subjects interested to cheat the test and system. Amarantus finds them an excellent starting point and would like to continue to partner with cognitive task companies, but is very confident that the ImPACT test, the CANTAB battery, the CogState battery, etc., will likely never become sufficient to characterize the health of the brain.

Eltoprazine in Parkinson's disease

1. Symmetrel (on market)

Symmetrel (Amantadine) was initially developed as an antiviral medication to treat influenza in the 1960s and was coincidentally discovered as a treatment for Parkinson's disease. Amantadine usually provides only mild relief, but is the only drug currently prescribed to treat PD LID. It is seldom used in early stages of PD. Amantadine is used in combination with levodopa to treat dyskinesias. Amantadine is commonly available as 100 mg capsule, although liquid and tablet forms can also be obtained.

2. ADS-5102

ADS-5102 is designed to address many of the limitations of immediate-release amantadine. In Adamas' clinical studies, for patients taking ADS-5102, the amantadine plasma concentration achieved from the early morning through mid-day is approximately two-times that reached following administration of immediate-release amantadine, providing symptomatic relief to patients as they engage in their daily activities. Further, the lower concentrations occurred in the evening, potentially reducing the negative impact of amantadine on sleep. In addition, ADS-5102 capsules can be opened to sprinkle the contents on food for use by Parkinson's disease patients who have difficulty swallowing due to their illness.

In the Phase 2/3 clinical study (the EASED study), ADS-5102 met its primary endpoint and several key secondary endpoints. Results from the EASED study were presented at the 17th International Congress of Parkinson's Disease and Movement Disorders and at the 9th World Parkinson's Congress. Adamas intends to initiate a Phase 3 registration trial of ADS-5102 in LID in 2014. If the Phase 3 registration trial of ADS-5102 is successful, Adamas plans to submit a New Drug Application (NDA) to the US Food and Drug Administration (FDA) for ADS-5102 in the first half of 2016.

3. Mavoglurant:

Mavoglurant (AFQ056) is an antagonist of the glutamate receptor mGluR5 being developed by Novartis (NVS) for several CNS indications, including LID. In a 31 patient Phase 2 trial in patients with moderate-to-severe LID, 15 patients were randomized to 25-150 mg mavoglurant twice daily and 16 patients were randomized to placebo. Patients in the active drug group experienced a significant reduction in symptoms as measured by the Lang-Fahn Activities in Daily living scale without negative impact on the effectiveness of the anti-Parkinson's efficacy of their ongoing dopaminergic therapy. Similar effects were seen in the second study, which examined the efficacy of mavoglurant in 28 patients with severe LID and used the Modified Abnormal Movement Scale to measure efficacy. Novartis reports

being in Phase 3 studies for PD-LID with mavoglurant.

4.

Dipraglurant:

Addex Therapeutics is developing dipraglurant, an oral negative allosteric modulator (NAM) of the metabotropic glutamate receptor 5 (mGluR5), for the treatment of PD-LID. Dipraglurant was examined in a randomized, double blind, placebo controlled Phase 2a trial in 83 subjects with moderate-to-severe Parkinson's disease. Results show that dipraglurant was safe and well tolerated with the most important side effects being vertigo, blurred vision, and a drunk feeling but none of these was severe. Results on the modified AIMS scale showed statistically significant improvement on days 1 and 14, with clinically relevant reductions in the dipraglurant group on all three periods tested (days 1, 14, and 28). We note Addex has specifically been looking to out-license dipraglurant for the initiation of a Phase 2b study since 2012.

Etoprazine in Adult ADHD

1. Adderall is a psychostimulant pharmaceutical drug of the phenethylamine class used in the treatment of attention deficit hyperactivity disorder (ADHD) and narcolepsy. The medication is a mixture of amphetamine stereoisomer salts and inactive ingredients. By salt content, the active ingredients are 75% dextroamphetamine salts and 25% levoamphetamine salts. Adderall is available in immediate release and extended release formulations.

2. Methylphenidate (trade names Concerta, Methylin, Ritalin, Equasym XL) is a psychostimulant drug and substituted phenethylamine approved for treatment of attention-deficit hyperactivity disorder (ADHD), postural orthostatic tachycardia syndrome and narcolepsy. The original patent was owned by CIBA, now Novartis Corporation. It was first licensed by the U.S. Food and Drug Administration (FDA) in 1955 for treating what was then known as hyperactivity. Prescribed to patients beginning in 1960, the drug became heavily prescribed in the 1990s, when the diagnosis of ADHD itself became more widely accepted.

3. Dexmethylphenidate, otherwise known as d-threo-methylphenidate (D-TMP), is the dextrorotatory enantiomer of methylphenidate. It is a norepinephrine-dopamine reuptake inhibitor (NDRI) and releasing agent and thus a psychostimulant, which affects the CNS. Dexmethylphenidate is sold as Focalin by Novartis, as Attenade by Celgene and as a generic drug by Teva, Mylan, and IntelliPharmaCeutics

4. Atomoxetine (brand name: Strattera) is a drug approved for the treatment of attention-deficit hyperactivity disorder (ADHD). It is a selective norepinephrine reuptake inhibitor (NRI).

MANF in Retinitis Pigmentosa

1. The NT-501 (Renexus®) ECT implant system generates the neurotrophic cytokine CNTF for treating photoreceptor degeneration associated with retinitis pigmentosa (RP), macular telangiectasia (MacTel), and achromatopsia (ACHM). This product is being developed by Neurotech.

2. Gensight is developing a halorhodopsin gene therapy treatment of blindness based on the results of the work of Dr. Bamberg, using a haorhodopsin gene embedded into a specific AAV variant which has shown its capacity to transfer the gene only into cones. The Company is currently in preclinical development

MANF in Parkinson's Disease

Our competitors include biotechnology companies focusing on neurotrophic factors for PD such as:

1. MedGenesis is developing GDNF as a disease modifying protein therapy treatment for Parkinson's disease. This program is currently in a Phase 2 clinical trial using the Renishaw delivery device.
2. Sangamo recently acquired intellectual property rights to Neurturin gene therapy treatment for Parkinson's disease from Ceregene, Inc. The program recently failed a Phase 2 clinical trial.
3. Hermo Pharma is developing CDNF as a disease modifying protein therapy treatment for Parkinson's disease. The program is currently in preclinical development.
4. Amsterdam Molecular Therapeutics is developing as a disease modifying gene therapy treatment for Parkinson's disease. They are currently in preclinical development.
5. Neurodyn is currently developing PDGF as a disease modifying protein therapy treatment for Parkinson's disease.

6. Academic institutions, governmental agencies and other public and private research organizations are also conducting research activities and seeking patent protection and may commercialize products on their own or through joint ventures. Several of these organizations are currently conducting physician sponsored preclinical and early clinical studies of neurotrophic factor gene therapy and protein therapy applications for Parkinson's disease.

MANUFACTURING

The Company does not have any in-house manufacturing capabilities. The Company intends to outsource the manufacturing of its LymPro, Eltoprazine and MANF products to third party contractors, with special capabilities to manufacture chemical drugs, In-vitro Diagnostics and biologic drug candidates for submission and clinical testing under FDA guidelines.

Distribution & Marketing

The Company intends to develop its product candidates through successive de-risking milestones towards regulatory approval and utilize its deep industry connections to either seek marketing approval of its product candidates or effect partnering transactions with biopharmaceutical companies seeking to strategically fortify pipelines and fund the costly later-stage clinical development required to achieve successful commercialization. As such, the Company does not anticipate selling products directly into the marketplace, although it retains the right to do so depending on market conditions. Amaranthus' primary intentions are to strategically effect partnering transactions which will give the Company a distribution and marketing partner to sell products into the marketplace.

Government Regulation

In the United States, pharmaceutical products are subject to extensive regulation by the FDA. The Federal Food, Drug, and Cosmetic Act and other federal and state statutes and regulations, govern, among other things, the research, development, testing, manufacture, storage, recordkeeping, approval, labeling, promotion and marketing, distribution, post-approval monitoring and reporting, sampling, and import and export of pharmaceutical products. The FDA has very broad enforcement authority and failure to abide by applicable regulatory requirements can result in administrative or judicial sanctions being imposed on us, including warning letters, refusals of government contracts, clinical holds, civil penalties, injunctions, restitution, disgorgement of profits, recall or seizure of products, total or partial suspension of production or distribution, withdrawal of approval, refusal to approve pending applications, and criminal prosecution.

CLIA Approval Process for Diagnostics

The Company believes its diagnostic candidates will be initially be regulated as Laboratory Developed Tests ("LDTs") under the Clinical Laboratory Improvement Amendments ("CLIA"), and thereafter the Company may seek to gain FDA approval for its diagnostic candidates as In-Vitro Diagnostics ("IVDs").

Congress passed the Clinical Laboratory Improvement Amendments in 1988 to regulate development, evaluation, and use of LDTs. CLIA states that laboratories must demonstrate how well an LDT performs using certain performance standards. Laboratories that perform testing on human specimens for the diagnosis, prevention, or treatment of disease, or for the assessment of health, must comply with all applicable CLIA '88 regulations. These regulations, which were finalized in 2003, establish standards to help ensure the quality and accuracy of laboratory testing. While most common laboratory tests are commercial tests, manufactured and marketed to multiple laboratories, some new tests are developed, evaluated, and validated within one particular laboratory. These LDTs are used solely within that laboratory and are not distributed or sold to any other labs or health care facilities.

Because LDTs are not marketed to other labs or facilities, they do not require approval for marketing from the U.S. Food and Drug Administration (FDA) as do commercially developed and marketed tests. However, these types of tests must go through rigorous validation procedures and must meet several criteria before results can be used for decisions regarding patient care. These include demonstration of test accuracy, precision, sensitivity, and specificity.

FDA Approval Process for Diagnostics

We may submit and obtain FDA approval or clearance for some or all of our diagnostic products. Pursuing and receiving FDA approval or clearance may be vital to maximizing our customer base and revenue potential for our numerous products.

FDA clearance for our products may be obtained through submission of a 510(k) statement of equivalency. Another regulatory option, albeit more complicated and expensive, is to pursue FDA approval by submitting a Pre-Market Approval (PMA) application. A 510(k) submission requires that we show equivalency of results in a clinical study with parallel comparison against an existing and FDA-recognized reference method (predicate device).

The FDA also regulates the sale of certain reagents to perform tests. The FDA refers to such a reagent as an Analyte-Specific Reagent (“ASR”). ASR’s generally do not require FDA pre-market approval or clearance if they are (i) sold to clinical laboratories certified under the Clinical Laboratory Improvement Act to perform high complexity testing and (ii) are labeled in accordance with FDA requirements, including a statement that their analytical and performance characteristics have not been established. Prior to, or in lieu of FDA approval, we can sell our reagents to laboratories that meet the established criteria. The FDA also regulates all promotional materials and specifically prohibits medical and efficacy claims.

Assuming that FDA approval or clearance is received for our products, a number of other FDA requirements would apply to our manufacturing and distribution efforts. Medical device manufacturers must be registered and their products listed with the FDA, and certain adverse events, such as reagent failures, significant changes in quality control and other events requiring correction and/or replacement/removal of reagents must be documented and reported to the FDA. The FDA also regulates product labeling, promotion, and in some cases, advertising, of medical devices. As discussed above, we must comply with the FDA’s Quality System Regulation that establishes extensive requirements for design control, quality control, validation, and manufacturing. Thus, even with FDA approval or clearance, we must continue to be diligent in maintaining compliance with these various regulations, as failure to do so can lead to enforcement action. The FDA periodically inspects facilities to determine compliance with these and other requirements.

FDA Approval Process for Diagnostics

The Company believes that its drug candidates will be regulated by the FDA as drugs. No manufacturer may market a new drug until it has submitted a New Drug Application, or NDA, to the FDA, and the FDA has approved it. The steps required before the FDA may approve an NDA generally include:

- preclinical laboratory tests and animal tests conducted in compliance with FDA's good laboratory practice requirements;
- development, manufacture and testing of active pharmaceutical product and dosage forms suitable for human use in compliance with current good manufacturing practices, or GMP;
- the submission to the FDA of an investigational new drug application, or IND, for human clinical testing, which must become effective before human clinical trials may begin;
- adequate and well-controlled human clinical trials to establish the safety and efficacy of the product for its specific intended use(s);
- the submission to the FDA of a New Drug Application, or NDA; and
 - FDA review and approval of the NDA.

Preclinical tests include laboratory evaluation of the product candidate, as well as animal studies to assess the potential safety and efficacy of the product candidate. The conduct of the pre-clinical tests must comply with federal regulations and requirements including good laboratory practices. The Company must submit the results of the preclinical tests, together with manufacturing information, analytical data and a proposed clinical trial protocol to the FDA as part of an IND, which must become effective before it may commence human clinical trials. The IND will automatically become effective 30 days after its receipt by the FDA, unless the FDA raises concerns or questions before that time about the conduct of the proposed trials. In such a case, the Company must work with the FDA to resolve any outstanding concerns before clinical trials can proceed. The Company cannot be sure that submission of an IND will result in the FDA allowing clinical trials to begin, or that, once begun, issues will not arise that suspend or terminate such trials. The study protocol and informed consent information for patients in clinical trials must also be submitted to an institutional review board for approval. An institutional review board may also require the clinical trial at the site to be halted, either temporarily or permanently, for failure to comply with the institutional review board's requirements or may impose other conditions.

Clinical trials involve the administration of the product candidate to humans under the supervision of qualified investigators, generally physicians not employed by or under the trial sponsor's control. Clinical trials are typically conducted in three sequential phases, though the phases may overlap or be combined. In Phase 1, the initial introduction of the drug into healthy human subjects, the drug is usually tested for safety (adverse effects), dosage tolerance and pharmacologic action, as well as to understand how the drug is taken up by and distributed within the body. Phase 2 usually involves studies in a limited patient population (individuals with the disease under study) to:

- evaluate preliminarily the efficacy of the drug for specific, targeted conditions;
- determine dosage tolerance and appropriate dosage as well as other important information about how to design larger Phase 3 trials; and
- identify possible adverse effects and safety risks.

Phase 3 trials generally further evaluate clinical efficacy and test for safety within an expanded patient population. The conduct of the clinical trials is subject to extensive regulation, including compliance with good clinical practice regulations and guidance.

The FDA may order the temporary or permanent discontinuation of a clinical trial at any time or impose other sanctions if it believes that the clinical trial is not being conducted in accordance with FDA requirements or presents an unacceptable risk to the clinical trial patients. The Company may also suspend clinical trials at any time on various grounds.

The results of the preclinical and clinical studies, together with other detailed information, including the manufacture and composition of the product candidate, are submitted to the FDA in the form of an NDA requesting approval to market the drug. FDA approval of the NDA is required before marketing of the product may begin in the U.S. If the NDA contains all pertinent information and data, the FDA will "file" the application and begin review. The FDA may "refuse to file" the NDA if it does not contain all pertinent information and data. In that case, the applicant may resubmit the NDA when it contains the missing information and data. Once the submission is accepted for filing, the FDA begins an in-depth review. The FDA has agreed to certain performance goals in the review of new drug applications. Most such applications for non-priority drug products are reviewed within 10 months. The review process, however, may be extended by FDA requests for additional information, preclinical or clinical studies, clarification regarding information already provided in the submission, or submission of a risk evaluation and mitigation strategy. The FDA may refer an application to an advisory committee for review, evaluation and recommendation as to whether the application should be approved. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions. Before approving an NDA, the FDA will typically inspect the facilities at which the product candidate is manufactured and will not approve the product candidate unless GMP compliance is satisfactory. FDA also typically inspects facilities responsible for performing animal testing, as well as clinical investigators who participate in clinical trials. The FDA may refuse to approve an NDA if applicable regulatory criteria are not satisfied, or may require additional testing or information. The FDA may also limit the

indications for use and/or require post-marketing testing and surveillance to monitor the safety or efficacy of a product. Once granted, product approvals may be withdrawn if compliance with regulatory standards is not maintained or problems are identified following initial marketing.

The testing and approval process requires substantial time, effort and financial resources, and our product candidates may not be approved on a timely basis, if at all. The time and expense required to perform the clinical testing necessary to obtain FDA approval for regulated products can frequently exceed the time and expense of the research and development initially required to create the product. The results of preclinical studies and initial clinical trials of the Company's product candidates are not necessarily predictive of the results from large-scale clinical trials, and clinical trials may be subject to additional costs, delays or modifications due to a number of factors, including difficulty in obtaining enough patients, investigators or product candidate supply. Failure by the Company to obtain, or any delay in obtaining, regulatory approvals or in complying with requirements could adversely affect the commercialization of product candidates and the Company's ability to receive product or royalty revenues.

Other Regulatory Requirements

After approval, drug products are subject to extensive continuing regulation by the FDA, which include company obligations to manufacture products in accordance with Good Manufacturing Practice, or GMP, maintain and provide to the FDA updated safety and efficacy information, report adverse experiences with the product, keep certain records and submit periodic reports, obtain FDA approval of certain manufacturing or labeling changes, and comply with FDA promotion and advertising requirements and restrictions. Failure to meet these obligations can result in various adverse consequences, both voluntary and FDA-imposed, including product recalls, withdrawal of approval, restrictions on marketing, and the imposition of civil fines and criminal penalties against the NDA holder. In addition, later discovery of previously unknown safety or efficacy issues may result in restrictions on the product, manufacturer or NDA holder.

The Company and any manufacturers of its products are required to comply with applicable FDA manufacturing requirements contained in the FDA's GMP regulations. GMP regulations require among other things, quality control and quality assurance as well as the corresponding maintenance of records and documentation. The manufacturing facilities for the Company's products must meet GMP requirements to the satisfaction of the FDA pursuant to a pre-approval inspection before it can use them to manufacture its products. The Company and any third-party manufacturers are also subject to periodic inspections of facilities by the FDA and other authorities, including procedures and operations used in the testing and manufacture of its products to assess its compliance with applicable regulations.

With respect to post-market product advertising and promotion, the FDA imposes a number of complex regulations on entities that advertise and promote pharmaceuticals, which include, among others, standards for direct-to-consumer advertising, promoting drugs for uses or in patient populations that are not described in the drug's approved labeling (known as "off-label use"), industry-sponsored scientific and educational activities, and promotional activities involving the internet. Failure to comply with FDA requirements can have negative consequences, including adverse publicity, enforcement letters from the FDA, mandated corrective advertising or communications with doctors, and civil or criminal penalties. Although physicians may prescribe legally available drugs for off-label uses, manufacturers may not market or promote such off-label uses.

Changes to some of the conditions established in an approved application, including changes in indications, labeling, or manufacturing processes or facilities, require submission and FDA approval of a new NDA or NDA supplement before the change can be implemented. An NDA supplement for a new indication typically requires clinical data similar to that in the original application, and the FDA uses the same procedures and actions in reviewing NDA supplements as it does in reviewing NDAs.

Adverse event reporting and submission of periodic reports is required following FDA approval of an NDA. The FDA also may require post-marketing testing, known as Phase 4 testing, risk minimization action plans and surveillance to

monitor the effects of an approved product or place conditions on an approval that could restrict the distribution or use of the product.

Outside the United States, the Company's ability to market a product is contingent upon receiving marketing authorization from the appropriate regulatory authorities. The requirements governing marketing authorization, pricing and reimbursement vary widely from jurisdiction to jurisdiction. At present, foreign marketing authorizations are applied for at a national level, although within the European Union registration procedures are available to companies wishing to market a product in more than one European Union member state.

The Company is also subject to various environmental, health and safety regulations including those governing laboratory procedures and the handling, use, storage, treatment, and disposal of hazardous materials. From time to time, and in the future, the Company's operations may involve the use of hazardous materials.

INTELLECTUAL PROPERTY

The Company is able to protect its technology from unauthorized use by third parties only to the extent that it is covered by valid and enforceable patents or is effectively maintained as a trade secret or is protected by confidentiality agreements. Accordingly, patents or other proprietary rights are an essential element of the Company's business.

Patents extend for varying periods according to the date of patent filing or grant and the legal term of patents in the various countries where patent protection is obtained. The actual protection afforded by a patent, which can vary from country to country, depends on the type of patent, the scope of its coverage and the availability of legal remedies in the country.

While trade secret protection is an essential element of the Company's business and it has taken security measures to protect its proprietary information and trade secrets, the Company cannot give assurance that its unpatented proprietary technology will afford it significant commercial protection. The Company seeks to protect its trade secrets by entering into confidentiality agreements with third parties, employees and consultants. The Company's employees and consultants also sign agreements requiring that they assign to the Company their interests in intellectual property arising from their work for the Company. All employees sign an agreement not to engage in any conflicting employment or activity during their employment with the Company and not to disclose or misuse confidential information. However, it is possible that these agreements may be breached or invalidated, and if so, there may not be an adequate corrective remedy available. Accordingly, the Company cannot ensure that employees, consultants or third parties will not breach the confidentiality provisions in its contracts, infringe or misappropriate its trade secrets and other proprietary rights or that measures the Company is taking to protect its proprietary rights will be adequate.

In the future, third parties may file claims asserting that the Company's technologies or products infringe on their intellectual property. The Company cannot predict whether third parties will assert such claims against it or against the licensors of technology licensed to it, or whether those claims will harm its business. If the Company is forced to defend itself against such claims, whether they are with or without merit and whether they are resolved in favor of, or against, the Company's licensors or the Company, the Company may face costly litigation and the diversion of management's attention and resources. As a result of such disputes, the Company may have to develop costly non-infringing technology or enter into licensing agreements. These agreements, if necessary, may be unavailable on terms acceptable to the Company, or at all.

Employees

The Company has three (3) employees as of December 31, 2013 and the Company believes its employee relations are satisfactory. The Company intends to expand the Company's management team and support staff over the next 12 months to meet the growing demands of developing the Company's business objectives.

Item 1A. Risk Factors

Risks Related to Our Product Candidates and Operations

We are largely dependent on the success of our lead product candidates, Eltoprazine, LymPro and MANF, and we may not be able to successfully commercialize these products.

We have incurred and will continue to incur significant costs relating to the development of our lead product candidates, LymPro, Eltoprazine and MANF. We have not obtained approval to commercialize LymPro, Eltoprazine and MANF in any jurisdiction and we may never be able to obtain approval or, if approvals are obtained, to commercialize LymPro, Eltoprazine and MANF successfully.

If we fail to successfully commercialize our products, we may be unable to generate sufficient revenue to sustain and grow our business, and our business, financial condition and results of operations will be adversely affected.

If we fail to obtain U.S. regulatory approval of LymPro, Eltoprazine, MANF or any of our other current or future product candidates, we will be unable to commercialize these potential products in the United States.

The development, testing, manufacturing and marketing of our product candidates are subject to extensive regulation by governmental authorities in the United States. In particular, the process of obtaining FDA approval is costly and time consuming, and the time required for such approval is uncertain. Our product candidates must undergo rigorous preclinical and clinical testing and an extensive regulatory approval process mandated by the FDA. Such regulatory review includes the determination of manufacturing capability and product performance. Generally, only a small percentage of pharmaceutical products are ultimately approved for commercial sale.

We can give no assurance that our current or future product candidates will be approved by the FDA or any other governmental body. In addition, there can be no assurance that all necessary approvals will be granted for future product candidates or that FDA review or actions will not involve delays caused by requests for additional information or testing that could adversely affect the time to market for and sale of our product candidates. Further failure to comply with applicable regulatory requirements can, among other things, result in the suspension of regulatory approval as well as possible civil and criminal sanctions.

Our proprietary rights may not adequately protect our intellectual property and product candidates and if we cannot obtain adequate protection of our intellectual property and product candidates, we may not be able to successfully market our product candidates.

Our commercial success will depend in part on obtaining and maintaining intellectual property protection for our technologies and product candidates. We will only be able to protect our technologies and product candidates from unauthorized use by third parties to the extent that valid and enforceable patents cover them, or that other market exclusionary rights apply.

While we have issued enforceable patents covering our product candidates, the patent positions of life sciences companies, like ours, can be highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved. No consistent policy regarding the breadth of claims allowed in such companies' patents has emerged to date in the United States. The general patent environment outside the United States also involves significant uncertainty. Accordingly, we cannot predict the breadth of claims that may be allowed or that the scope of these patent rights would provide a sufficient degree of future protection that would permit us to gain or keep our competitive advantage with respect to these products and technology.

Our issued patents may be subject to challenge and possibly invalidated by third parties. Changes in either the patent laws or in the interpretations of patent laws in the United States or other countries may diminish the market exclusionary ability of our intellectual property.

In addition, others may independently develop similar or alternative compounds and technologies that may be outside the scope of our intellectual property. Should third parties obtain patent rights to similar compounds or radiolabeling technology, this may have an adverse effect on our business.

To the extent that consultants or key employees apply technological information independently developed by them or by others to our product candidates, disputes may arise as to the proprietary rights of the information, which may not be resolved in our favor. Consultants and key employees that work with our confidential and proprietary technologies are required to assign all intellectual property rights in their discoveries to us. However, these consultants or key

employees may terminate their relationship with us, and we cannot preclude them indefinitely from dealing with our competitors. If our trade secrets become known to competitors with greater experience and financial resources, the competitors may copy or use our trade secrets and other proprietary information in the advancement of their products, methods or technologies. If we were to prosecute a claim that a third party had illegally obtained and was using our trade secrets, it would be expensive and time consuming and the outcome would be unpredictable. In addition, courts outside the United States are sometimes less willing to protect trade secrets than courts in the United States. Moreover, if our competitors independently develop equivalent knowledge, we would lack any contractual claim to this information, and our business could be harmed.

If our product candidates, including LymPro, Eltoprazine, MANF, do not gain market acceptance among physicians, patients and the medical community, we will be unable to generate significant revenue, if any.

The products that we develop may not achieve market acceptance among physicians, patients, third-party payers and others in the medical community. If we, or any of our partners, receive the regulatory approvals necessary for commercialization, the degree of market acceptance will depend upon a number of factors, including:

- limited indications of regulatory approvals;
- the establishment and demonstration in the medical community of the clinical efficacy and safety of our product candidates and their potential advantages over existing diagnostic compounds;
- the prevalence and severity of any side effects;
- our ability to offer our product candidates at an acceptable price;
- the relative convenience and ease of administration of our products;

- the strength of marketing and distribution support; and
- sufficient third-party coverage or reimbursement.

The market may not accept LymPro, Eltoprazine or MANF based products based on any number of the above factors. The market may choose to continue utilizing the existing products for any number of reasons, including familiarity with or pricing of these existing products. The failure of any of our product candidates to gain market acceptance could impair our ability to generate revenue, which could have a material adverse effect on our future business and prevent us from obtaining the necessary partnerships to further our business strategy.

Risks Associated with Our Financial Condition

Our independent registered public accounting firm has expressed substantial doubt about our ability to continue as a going concern, which may hinder our ability to obtain future financing.

Our consolidated financial statements as of December 31, 2013 were prepared under the assumption that we will continue as a going concern for the next twelve months. Our independent registered public accounting firm has issued a report that included an explanatory paragraph referring to our projected future losses along with recurring losses from operations and expressing substantial doubt in our ability to continue as a going concern without additional capital becoming available. Our ability to continue as a going concern is dependent upon our ability to obtain additional equity or debt financing, attain further operating efficiencies, reduce expenditures, and, ultimately, to generate revenue. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

We are at an early stage of development as a company and currently have no source of revenue and may never become profitable.

We are a development stage biopharmaceutical company. Currently, we have no products approved for commercial sale and, to date, we have not generated any revenue. Our ability to generate revenue depends heavily on:

- demonstration in future clinical trials that our product candidate, MANF for the treatment of PD is safe and effective;
- our ability to seek and obtain regulatory approvals, including with respect to the indications we are seeking;
- successful manufacture and commercialization of our product candidates; and
- market acceptance of our products.

All of our existing product candidates are in various stages of development and will require extensive additional preclinical and clinical evaluation, regulatory review and approval, significant marketing efforts and substantial investment before they could provide us with any revenue. As a result, if we do not successfully develop, achieve

regulatory approval and commercialize LymPro, Eltoprazine and/or MANF, we will be unable to generate any revenue for many years, if at all. We do not anticipate that we will generate revenue for several years, at the earliest, or that we will achieve profitability for at least several years after generating material revenue, if at all. If we are unable to generate revenue, we will not become profitable, and we may be unable to continue our operations.

We do not have any products that are approved for commercial sale and therefore do not expect to generate any revenues from product sales in the foreseeable future, if ever.

We currently do not have any products that are approved for commercial sale. To date, we have funded our operations primarily from grants and sales of our securities. We have not received, and do not expect to receive for at least the next several years in the case of Eltoprazine and MANF and until the 2nd half of 2014 in the case of LymPro, if at all, any revenues from the commercialization of our product candidates. To obtain revenues from sales of our product candidates, we must succeed, either alone or with third parties, in developing, obtaining regulatory approval for, manufacturing and marketing drugs with commercial potential. We may never succeed in these activities, and may not generate sufficient revenues to continue our business operations or achieve profitability.

We have incurred significant losses since inception and anticipate that we will incur continued losses for the foreseeable future.

As of December 31, 2013, we had an accumulated deficit of approximately \$26.3 million. We expect to incur significant and increasing operating losses for the next several years as we expand our research and development, advance product candidates into clinical development, complete clinical trials, seek regulatory approval and, if we receive FDA approval, commercialize our products. Because of the numerous risks and uncertainties associated with product development efforts, we are unable to predict the extent of any future losses or when we will become profitable, if at all. If we are unable to achieve and then maintain profitability, the market value of our common stock will likely decline.

We will need to raise substantial additional capital to fund our operations, and our failure to obtain funding when needed may force us to delay, reduce or eliminate certain product development programs.

We expect to continue to spend substantial amounts to:

- continue development of our product candidates;
- finance our general and administrative expenses;
- license or acquire additional technologies;
- manufacture product for clinical trials;
- launch and commercialize our product candidates, if any such product candidates receive regulatory approval; and
- develop and implement sales, marketing and distribution capabilities.

We will be required to raise additional capital to complete the development and commercialization of our product candidates and to continue to fund operations at the current cash expenditure levels. Our future funding requirements will depend on many factors, including, but not limited to:

- the rate of progress and cost of our clinical trials and other development activities;
- any future decisions we may make about the scope and prioritization of the programs we pursue;
- the costs of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights;
- the costs of manufacturing product;
- the costs and timing of regulatory approval;
- the costs of establishing sales, marketing and distribution capabilities;
- the effect of competing technological and market developments;
- the terms and timing of any collaborative, licensing and other arrangements that we may establish; and
- general market conditions for offerings from biopharmaceutical companies.

Worldwide economic conditions and the international equity and credit markets have recently significantly deteriorated and may remain depressed for the foreseeable future. These developments could make it more difficult for us to obtain additional equity or credit financing, when needed.

We cannot be certain that funding will be available on acceptable terms, or at all. To the extent that we raise additional funds by issuing equity securities, our stockholders may experience significant dilution. Any debt financing, if available, may involve restrictive covenants that impact our ability to conduct our business. If we are unable to raise additional capital when required or on acceptable terms, we may have to significantly delay, scale back or discontinue the development and/or commercialization of one or more of our product candidates. We also may be required to:

- seek collaborators for our product candidates at an earlier stage than otherwise would be desirable and on terms that are less favorable than might otherwise be available; and/or
- relinquish license or otherwise dispose of rights to technologies, product candidates or products that we would otherwise seek to develop or commercialize ourselves on unfavorable terms.

Risks Associated with Management

If we are unable to hire and retain key personnel, we may not be able to implement our business plan.

Due to the specified nature of our business, having certain key personnel is essential to the development and marketing of the products we plan to sell and thus to the entire business itself. Consequently, the loss of any of those individuals may have a substantial effect on our future success or failure. We may have to recruit qualified personnel with competitive compensation packages, equity participation, and other benefits that may affect the working capital available for our operations. Management may have to seek to obtain outside independent professionals to assist them in assessing the merits and risks of any business proposals as well as assisting in the development and operation of many company projects. No assurance can be given that we will be able to obtain such needed assistance on terms acceptable to us. Our failure to attract additional qualified employees or to retain the services of key personnel could have a material adverse effect on our operating results and financial condition.

Risks Related to Our Common Stock

Our stock price may be volatile.

The stock market, particularly in recent years, has experienced significant volatility particularly with respect to pharmaceutical, biotechnology and other life sciences company stocks. The volatility of pharmaceutical, biotechnology and other life sciences company stocks often does not relate to the operating performance of the companies represented by the stock. Factors that could cause this volatility in the market price of our common stock include:

- results from and any delays in our clinical trials;
- failure or delays in entering additional product candidates into clinical trials;
- failure or discontinuation of any of our research programs;
- research publications that are unfavorable;
- delays in establishing new strategic relationships;
- delays in the development or commercialization of our potential products;
- market conditions in the pharmaceutical and biotechnology sectors and issuance of new or changed securities
- analysts' reports or recommendations;
- actual and anticipated fluctuations in our financial and operating results;
- developments or disputes concerning our intellectual property or other proprietary rights;
- introduction of technological innovations or new commercial products by us or our competitors;
- issues in manufacturing our potential products;

- market acceptance of our potential products;
- third-party healthcare reimbursement policies;
- FDA or other domestic or foreign regulatory actions affecting us or our industry;
- litigation or public concern about the safety of our product candidates; and
- additions or departures of key personnel.

These and other external factors may cause the market price and demand for our common stock to fluctuate substantially, which may limit or prevent investors from readily selling their shares of common stock and may otherwise negatively affect the liquidity of our common stock. In the past, when the market price of a stock has been volatile, holders of that stock have instituted securities class action litigation against the company that issued the stock. If any of our stockholders brought a lawsuit against us, we could incur substantial costs defending the lawsuit. Such a lawsuit could also divert the time and attention of our management.

We have not and do not anticipate paying any dividends on our common stock.

We have paid no dividends on our common stock to date and it is not anticipated that any dividends will be paid to holders of our common stock in the foreseeable future. While our future dividend policy will be based on the operating results and capital needs of the business, it is currently anticipated that any earnings will be retained to finance our future expansion and for the implementation of our business plan. As an investor, you should take note of the fact that a lack of a dividend can further affect the market value of our stock, and could significantly affect the value of any investment in our Company.

We have a potential issuance of additional common shares from the conversion of our promissory note.

The promissory note dated March 5, 2008 can be converted at the option of the Company based upon the FMV of common stock as of the date of issuance at the closing price quoted on the exchange on which the Company's common stock is listed. The conversion price as at December is \$0.0798, and would convert to 3,107,356 shares.

If we fail to establish and maintain an effective system of internal control, we may not be able to report our financial results accurately or to prevent fraud. Any inability to report and file our financial results accurately and timely could harm our reputation and adversely impact the trading price of our common stock.

Effective internal control is necessary for us to provide reliable financial reports and prevent fraud. If we cannot provide reliable financial reports or prevent fraud, we may not be able to manage our business as effectively as we would if an effective control environment existed, and our business and reputation with investors may be harmed. As a result, our small size and any current internal control deficiencies may adversely affect our financial condition, results of operation and access to capital. We have not performed an in-depth analysis to determine if historical un-discovered failures of internal controls exist, and may in the future discover areas of our internal control that need

improvement.

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Our common stock is currently deemed a “penny stock,” which makes it more difficult for our investors to sell their shares.

Our common stock is subject to the “penny stock” rules adopted under Section 15(g) of the Exchange Act. The penny stock rules generally apply to companies whose common stock is not listed on The Nasdaq Stock Market or other national securities exchange and trades at less than \$4.00 per share, other than companies that have had average revenue of at least \$6,000,000 for the last three years or that have tangible net worth of at least \$5,000,000 (\$2,000,000 if the company has been operating for three or more years). These rules require, among other things, that brokers who trade penny stock to persons other than “established customers” complete certain documentation, make suitability inquiries of investors and provide investors with certain information concerning trading in the security, including a risk disclosure document and quote information under certain circumstances. Many brokers have decided not to trade penny stocks because of the requirements of the penny stock rules and, as a result, the number of broker-dealers willing to act as market makers in such securities is limited. If we remain subject to the penny stock rules for any significant period, it could have an adverse effect on the market, if any, for our securities. If our securities are subject to the penny stock rules, investors will find it more difficult to dispose of our securities.

Offers or availability for sale of a substantial number of shares of our common stock may cause the price of our common stock to decline.

If our stockholders sell substantial amounts of our common stock in the public market upon the expiration of any statutory holding period, under Rule 144, or issued upon the exercise of outstanding options or warrants, it could create a circumstance commonly referred to as an “overhang” and in anticipation of which the market price of our common stock could fall. The existence of an overhang, whether or not sales have occurred or are occurring, also could make more difficult our ability to raise additional financing through the sale of equity or equity-related securities in the future at a time and price that we deem reasonable or appropriate.

Our certificate of incorporation allows for our board to create new series of preferred stock without further approval by our stockholders, which could adversely affect the rights of the holders of our common stock.

Our board of directors has the authority to fix and determine the relative rights and preferences of preferred stock and has designated 250,000 preferred shares as Series A Convertible Preferred Stock, 2,500,000 as Series B Convertible Preferred Stock, 750,000 as Series C Convertible Preferred Stock, and 1,300 as Series D Convertible Preferred Stock. Our board of directors also has the authority to issue additional shares of our preferred stock without further stockholder approval. As a result, our board of directors could authorize the issuance of a series of preferred stock that would grant to holders the preferred right to our assets upon liquidation, the right to receive dividend payments before dividends are distributed to the holders of common stock and the right to the redemption of the shares, together with a premium, prior to the redemption of our common stock. In addition, our board of directors could authorize the issuance of a series of preferred stock that has greater voting power than our common stock or that is convertible into

our common stock, which could decrease the relative voting power of our common stock or result in dilution to our existing stockholders.

We improperly classified certain unpaid bonuses to senior management and may need to restate Form 10-K for the year ended December 31, 2012 and Forms 10-Q for the quarters ended March 31, 2013, June 30, 2013 and September 30, 2013.

Unpaid bonuses to Gerald E. Commissiong, President and Chief Executive Officer and Dr. John W. Commissiong, Chief Scientific, Officer earned in fiscal years 2012 and 2013, were improperly reflected as prepaid expenses and other current assets in form 10-K filed with the Security and Exchange Commission on 4/17/2013, and forms 10-Q filed with the Security and Exchange Commission on May 12, 2013, August 19, 2013 and November 14, 2013. This improper classification was not in conformity with the financial policies of the Company. In the fourth quarter 2013 were paid and thereby eliminating this improper classification. A total bonus of \$443,874 was paid in 2014, \$230,222 for Gerald E. Commissiong, and \$213,763 for Dr. John W. Commissiong. The Company is continuing its review of this improper classification and may determine that a restatement of its Form 10-K for the year ended December 31, 2012 and Forms 10-Q for the quarters ended March 31, 2013, June 30, 2013 and September 30, 2013 is necessary.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

The Company leases its main office facility and laboratory space in San Francisco, CA under a one-year lease agreement with QB3 Incubator Partners, LP. The lease agreement was entered into in October 2013 and provides for rental payments of \$6,700 per month. The Company does not own any real property.

Item 3. Legal Proceedings.

The Company is not currently involved in any litigation that it believes could have a material adverse effect on its financial condition or results of operations.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity and Related Stockholder Matters and Issuer Purchases of Equity Securities.

The Company's common stock is currently quoted on the OTCQB ("OTCQB"). The OTCQB is a network of security dealers who buy and sell stock. The dealers are connected by a computer network that provides information on current "bids" and "asks", as well as volume information. The Company's common stock is quoted on the OTCQB under the symbol "AMBS".

The following table sets forth, for the calendar periods indicated the range of the high and low last reported of the Company's common stock, as reported by the OTCQB. The quotations represent inter-dealer prices without retail mark-ups, mark-downs or commissions, and may not necessarily represent actual transactions. The quotations may be rounded for presentation.

Period	High	Low
First Quarter 2013	\$0.195	\$0.0453
Second Quarter 2013	\$0.09	\$0.027
Third Quarter 2013	\$0.0890	\$0.0279
Fourth Quarter 2013	\$0.0925	\$0.0391

Period	High	Low
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First Quarter 2012	\$0.15	\$0.05
Second Quarter 2012	\$0.13	\$0.012
Third Quarter 2012	\$0.02	\$0.004
Fourth Quarter 2012	\$0.11	\$0.0046

As of April 15, 2014, Amaranthus had 715,074,189 shares of common stock outstanding held by 61 shareholders of record.

Transfer Agent

The Company's registrar and transfer agent is VStock Transfer, LLC, 77 Spruce Street, Suite 201, Cedarhurst, New York 11516.

Dividend Policy

We have not previously paid any cash dividends on our Common Stock and do not anticipate or contemplate paying dividends on our Common Stock in the foreseeable future. We currently intend to utilize all available funds to develop our business. We can give no assurances that we will ever have excess funds available to pay dividends.

Recent Sales of Unregistered Securities

On August 26, 2013, the Company issued 2,793,296 shares of the Company's restricted common stock to Matt Morris related to the conversion of a convertible note into common stock. These shares were issued pursuant to the exemptions from the registration requirements of the Securities Act of 1933, as amended, afforded the Company under Section 4(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On September 4, 2013, the Company issued 100,000 shares of the Company's restricted common stock to Gerard Casale related to business advisory services. These shares were issued pursuant to the exemptions from the registration requirements of the Securities Act of 1933, as amended, afforded the Company under Section 4(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On September 24, 2013, the Company issued 10,000,000 shares of the Company's restricted common stock to Jeffery Stephens related to the conversion of a convertible note into common stock. These shares were issued pursuant to the exemptions from the registration requirements of the Securities Act of 1933, as amended, afforded the Company under Section 4(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On September 1, 2013, the Company issued 9,733,714 shares of the Company's restricted common stock to Ascendant Partners, LLC related to the conversion of a convertible note into common stock. These shares were issued pursuant to the exemptions from the registration requirements of the Securities Act of 1933, as amended, afforded the Company under Section 4(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On September 26, 2013, the Company issued 3,700,000 shares of the Company's restricted common stock to Jeffery Stephens related to the conversion of a convertible note into common stock. These shares were issued pursuant to the exemptions from the registration requirements of the Securities Act of 1933, as amended, afforded the Company under Section 4(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On September 30, 2013, the Company issued 6,793,143 shares of the Company's restricted common stock to Dominion Capital LLC related to the conversion of a convertible note into common stock. These shares were issued pursuant to the exemptions from the registration requirements of the Securities Act of 1933, as amended, afforded the Company under Section 4(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

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On October 1, 2013, the Company issued 413 860 shares of the Company's restricted common stock to Dominion Capital LLC related dividend on Series D Preferred Stock. These shares were issued pursuant to the exemptions from the registration requirements of the Securities Act of 1933, as amended, afforded the Company under Section 4(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On October 1, 2013, the Company issued 375,000 shares of the Company's restricted common stock to Sichenza Ross Friedman Ference related to business advisory services. These shares were issued pursuant to the exemptions from the registration requirements of the Securities Act of 1933, as amended, afforded the Company under Section 4(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On October 1, 2013, the Company issued 250,000 shares of the Company's restricted common stock to VStock Transfer, LLC related to business advisory services. These shares were issued pursuant to the exemptions from the registration requirements of the Securities Act of 1933, as amended, afforded the Company under Section 4(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On October 1, 2013, the Company issued 1,000,000 shares of the Company's restricted common stock to Jack Brewer related to business advisory services. These shares were issued pursuant to the exemptions from the registration requirements of the Securities Act of 1933, as amended, afforded the Company under Section 4(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On October 3, 2013, the Company issued 489 867 shares of the Company's restricted common stock to Black Mountain Equities, Inc. related to the conversion of a convertible note into common stock. These shares were issued pursuant to the exemptions from the registration requirements of the Securities Act of 1933, as amended, afforded the Company under Section 4(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On October 4, 2013, the Company issued 1,500,000 shares of the Company's restricted common stock to Daniel Kordash related to business advisory services. These shares were issued pursuant to the exemptions from the registration requirements of the Securities Act of 1933, as amended, afforded the Company under Section 4(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On October 7, 2013, the Company issued 1,875,000 shares of the Company's restricted common stock to Zacks & Company related to business advisory services. These shares were issued pursuant to the exemptions from the registration requirements of the Securities Act of 1933, as amended, afforded the Company under Section 4(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On October 7, 2013, the Company issued 61,345 shares of the Company's restricted common stock to Richard Lane related to business advisory services. These shares were issued pursuant to the exemptions from the registration requirements of the Securities Act of 1933, as amended, afforded the Company under Section 4(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On October 7, 2013, the Company issued 128,158 shares of the Company's restricted common stock to Russell James Miller, Jr. Living Trust related to business advisory services. These shares were issued pursuant to the exemptions from the registration requirements of the Securities Act of 1933, as amended, afforded the Company under Section 4(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On October 15, 2013, the Company issued 7,875,594 shares of the Company's restricted common stock to Dominion Capital LLC related to the conversion of a convertible note into common stock. These shares were issued pursuant to the exemptions from the registration requirements of the Securities Act of 1933, as amended, afforded the Company under Section 4(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On October 17, 2013, the Company issued 180,000 shares of the Company's restricted common stock to VStock Transfer, LLC related to business advisory services. These shares were issued pursuant to the exemptions from the registration requirements of the Securities Act of 1933, as amended, afforded the Company under Section 4(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On October 28, 2013, the Company issued 6,683,680 shares of the Company's restricted common stock to Dominion Capital LLC related to the conversion of a convertible note into common stock. These shares were issued pursuant to the exemptions from the registration requirements of the Securities Act of 1933, as amended, afforded the Company under Section 4(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On November 12, 2013, the Company issued 7,863,883 shares of the Company's restricted common stock to Dominion Capital LLC related to the conversion of a convertible note into common stock. These shares were issued pursuant to the exemptions from the registration requirements of the Securities Act of 1933, as amended, afforded the Company under Section 4(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On December 2, 2013, the Company issued 7,161,125 shares of the Company's restricted common stock to Dominion Capital LLC related to the conversion of a convertible note into common stock. These shares were issued pursuant to the exemptions from the registration requirements of the Securities Act of 1933, as amended, afforded the Company under Section 4(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On December 2, 2013, the Company issued 7,161,125 shares of the Company's restricted common stock to Dominion Capital LLC related to the conversion of a convertible note into common stock. These shares were issued pursuant to the exemptions from the registration requirements of the Securities Act of 1933, as amended, afforded the Company under Section 4(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

Unless otherwise stated, the sales of the above securities were deemed to be exempt from registration under the Securities Act in reliance upon Section 4(2) of the Securities Act (or Regulation D or Regulation S promulgated thereunder), or Rule 701 promulgated under Section 3(b) of the Securities Act as transactions by an issuer not involving any public offering or pursuant to benefit plans and contracts relating to compensation as provided under Rule 701. The recipients of the securities in each of these transactions represented their intentions to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof, and appropriate legends were placed upon the stock certificates issued in these transactions.

Equity Compensation Plan Information

The Company's Board of Directors and its stockholders approved the 2008 Stock Plan (the "2008 Plan"). Under the Plan, the Board of Directors may grant up to 28,242,127 shares of incentive stock options, nonqualified stock options, or stock awards to eligible persons, including employees, nonemployees, members of the Board, consultants, and other independent advisors who provide services to the Company. In general, options are granted with an exercise price equal to the fair value of the underlying common stock on the date of the grant. Options generally have a contractual life of 10 years and vest over periods ranging from being fully vested as of the grant dates to four years.

Further, in July 2012, our Board of Directors adopted a new stock plan, the Management, Employee, Advisor and Director Preferred Stock Option Plan – 2012 Series B Convertible Preferred Stock Plan. The purposes of this Plan are to attract and retain the best available personnel for positions of substantial responsibility, to provide additional incentive to Management, Employees, Advisors and Directors and to promote the success of our business. Certain current and former Management, Employees, Advisors and Directors were awarded a total of 1,247,500 options to purchase Series B Preferred shares on July 15th, 2012, and an additional 1,200,000 options on November 4, 2012

The following table shows information with respect these plans as of the fiscal year ended December 31, 2013.

Equity Compensation Plan Information (Common Stock)

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average Exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a) (c))
Equity compensation plans approved by security holders	6,941,288	\$0.05	623,618
Equity compensation plans not approved by security holders	—	—	—
Total	6,941,288	\$0.05	623,618

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Equity Compensation Plan Information (Preferred Stock)

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average Exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders	—	—	—
Equity compensation plans not approved by security holders	2,287,500	\$ 0.4500	552,500
Total	2,287,500	\$ 0.4500	552,500

Item 6. Selected Financial Data

Not applicable.

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations.

This report contains forward-looking statements. These forward-looking statements include, without limitation, statements containing the words “believes,” “anticipates,” “expects,” “intends,” “projects,” “will,” and other words of similar import or the negative of those terms or expressions. Forward-looking statements in this report include, but are not limited to, expectations of future levels of research and development spending, general and administrative spending, levels of capital expenditures and operating results, sufficiency of our capital resources, our intention to pursue and consummate strategic opportunities available to us, including sales of certain of our assets. Forward-looking statements subject to certain known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. These risks and uncertainties include, but are not limited to those described in “Risk Factors” of the reports filed with the Securities and Exchange Commission.

The following discussion should be read in conjunction with our consolidated financial statements and notes thereto included elsewhere herein.

Overview

Amarantus Bioscience Holdings, Inc. (“the Company”) is a California-based development-stage biopharmaceutical company founded in January 2008. We focus on developing our intellectual property and proprietary technologies to develop drug and diagnostic product candidates to treat human disease. We own or have exclusive licenses to various product candidates in the biopharmaceutical and diagnostic areas of the healthcare industry, with a specific focus on bringing this candidates to market in the areas of Alzheimer’s disease, Parkinson’s disease, Retinal Degenerative disorders, Wolfram’s Syndrome and other ailments of the human body, with a particular focus on the nervous system. Our business model is to develop our product candidates through various de-risking milestones that we believe will be accretive to shareholder value and strategically partner with biopharmaceutical companies, diagnostic companies, investors, private foundations and other key stakeholders in the specific sub-sector of the healthcare industry in which we are developing our products in order to achieve regulatory approval in key jurisdictions and thereafter successfully market and distribute our products.

Principal Products in Development

The Company's philosophy is to acquire, in-license, discover and develop drug candidates and diagnostics with the potential to address critically important biological pathways involved in human disease.

LymPro Test ®

The Lymphocyte Proliferation Test ("LymPro Test ®", or "LymPro") is a diagnostic blood test for Alzheimer's disease originally developed by the University of Leipzig in Germany. The test works by evaluating the cell surface marker CD69 on peripheral blood lymphocytes following a mitogenic stimulation. The underlying scientific basis for LymPro is that Alzheimer's patients have a dysfunctional cellular machinery that inappropriately allows mature neurons in the brain to enter the mitotic process (cell division /cell cycle). When this happens the neurons start the cell division process, but cannot complete that process. As a result, a number of cytokines and other genes are upregulated, ultimately leading to cell death by apoptosis. This inappropriate cell division activation process is also present in the lymphocytes of Alzheimer's patients, as lymphocytes share a similar cellular division machinery with brain neurons. We measure the integrity of this cellular division machinery process by measuring CD69 upregulation in response to the mitogenic stimulation. If CD 69 is upregulated it means that the cellular division machinery process is correct and Alzheimer's is not present. If CD69 is not upregulated, it means there is a dysfunctional cellular division machinery process, and Alzheimer's is more likely. To date, data has been published in peer-reviewed publications on LymPro with 160 patients, demonstrating 92% co-positivity and 91% co-negativity with an overall 95% accuracy rating for LymPro.

Eltoprazine

Eltoprazine is a small molecule drug candidate that is a selective partial agonist on the 5HT1-A and 5HT1-B receptors of the serotonergic system in the brain originally discovered and developed by Solvay Pharmaceuticals (now Abbvie). The serotonergic system has been associated with a wide range of disorders motor and behavioral disorders including aggression, cognition, attention and control. The Company is developing Eltoprazine for the treatment of the primary side effect of current Parkinson's disease medication Levodopa-Induced Dyskinesia ("PD LID"), as well as Adult Attention Deficit Hyperactivity Disorder ("Adult ADHD"). To date, over 700 patients have been dosed with Eltoprazine at varying doses as high as 30mg; the active dose in both PD LID and Adult ADHD is 5mg. Primary and secondary endpoints have been met for Eltoprazine in Phase 2 trials in PD LID and Adult ADHD.

MANF

Mesencephalic Astrocyte-derived Neurotrophic Factor ("MANF") is an endogenous, evolutionally conserved and widely expressed protein that was discovered by the Company's Chief Scientific Officer Dr. John Commissiong. MANF acts on a variety of molecular functions, including as a part of the endoplasmic reticulum stress response ("ER-SR") system of the unfolded protein response ("UPR"). MANF has demonstrated efficacy as a disease-modifying treatment in various animal models, including Parkinson's disease, retinitis pigmentosa, cardiac ischemia and stroke. The Company has made a strategic decision to focus the development of MANF in orphan indications and is currently evaluating the most appropriate indication for development based on data currently being assembled internally, by contract research organizations and academic collaborators.

Since inception, the Company's research team has been focused on developing MANF as a therapeutic for Parkinson's disease, and other apoptosis-related disorders. The Company's business plans are focused in these specific areas:

Other

Exploration of the Company's PhenoGuard platform for neurotrophic factor discovery and discovery and evaluation of external drug candidates for potential in-licensure or acquisition.

For the next 12 months, the Company intends to focus primarily on the commercialization of LymPro, the further clinical development of Eltoprazine, and the preclinical development of MANF.

Critical Accounting Policies

Principles of Consolidation - The Consolidated Financial Statements include the accounts of Amarantus BioScience Holdings, Inc. and its subsidiaries. All significant intercompany accounts and transactions have been eliminated.

Use of Estimates - The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and reported amounts of expenses during the reporting period. Actual results could differ from those estimates.

Certain Significant Risks and Uncertainties - The Company participates in a global, dynamic, and highly competitive industry and believes that changes in any of the following areas could have a material adverse effect on the Company's future financial position, results of operations, or cash flows: ability to obtain future financing; advances and trends in new technologies and industry standards; regulatory approval and market acceptance of the Company's products; development of the necessary manufacturing capabilities and the Company's ability to obtain adequate resources of necessary materials; development of sales channels; certain strategic relationships; litigation or claims against the Company based on intellectual property, patent, product, regulatory, or other factors; and the Company's ability to attract and retain employees and other resources necessary to support its growth.

Concentration of Credit Risk - Financial instruments that potentially subject the Company to concentrations of credit risk consist of cash and cash equivalents. The Company places its cash and cash equivalents with domestic financial institutions that are federally insured within statutory limits.

Cash and Cash Equivalents - The Company considers all highly liquid investments purchased with an original maturity of three months or less to be cash equivalents.

Property and Equipment - Property and equipment, when acquired, are stated at cost and are depreciated on a straight-line basis over their estimated useful lives as follows:

Equipment	3 years
Computer equipment	2 years
Furniture and fixtures	3 years

The Company disposed of all of its furniture and equipment and recorded a loss on disposal of \$1,129 in 2012. Depreciation expense for the years ended December 31, 2013 and 2012 and for the period from January 14, 2008 (date of inception) to December 31, 2013 was \$0, \$7,260, and \$33,014, respectively.

Impairment of Long-Lived Assets- The Company reviews the carrying value of long-lived assets, including intangible assets and property and equipment, for impairment whenever events or changes in circumstances indicate that the carrying value may not be fully recoverable. There have been no impairments for the years ended December 31, 2013 and 2012 and for the period from January 14, 2008 (date of inception) to December 31, 2013

Revenue Recognition - The Company recognizes revenue when the earnings process is complete, when revenue is realized or realizable and earned, when persuasive evidence a revenue arrangement exists, delivery of goods or services has occurred, the sales price is fixed or determinable, and collectability is reasonably assured.

The Company accounts for milestones related to research and development activities in accordance with the milestone method of revenue recognition of Accounting Standards Codification Topic 605-28, under which consideration contingent on the achievement of a substantive milestone is recognized in its entirety in the period when the milestone is achieved. A milestone is considered to be substantive when it meets all of the following criteria: the milestone is commensurate with either the performance required to achieve the milestone or the enhancement of the value of the delivered items resulting from the performance required to achieve the milestone; the milestone relates solely to past performance; and, the milestone is reasonable relative to all of the deliverables and payment terms within the agreement.

The Company recognized no revenue during the years ended December 31, 2013 and 2012 and \$415,996 of revenue during the period from January 14, 2008 (date of inception) to December 31, 2013. To date, the Company has only received research grant revenue and contract revenue. Research grant revenue and contract revenue is recognized as the Company provides the services stipulated in the underlying agreement based on the time and expenditures incurred, and all terms required in the agreement have been met. Amounts received in advance of services provided are recorded as deferred revenue and amortized as revenue when the services are provided.

Research and Development Expenditures - Research and development expenses consist of personnel costs, including salaries, benefits and stock-based compensation, materials and supplies, licenses and fees, and overhead allocations consisting of various administrative and facilities related costs. Research and development activities are also separated into three main categories: research, clinical development, and biotechnology development. Research costs typically consist of preclinical and toxicology costs. Clinical development costs include costs for Phase 1 and 2 clinical studies. Biotechnology development costs consist of expenses incurred in connection with product formulation and analysis. The Company charges research and development costs, including clinical study costs, to expense when incurred.

Fair Value of Financial Instruments - The fair value of certain of the Company's financial instruments, including cash and cash equivalents, accrued compensation, and other accrued liabilities, approximate cost because of their short maturities. The Company measures the fair value of certain of its financial assets and liabilities on a recurring basis. A fair value hierarchy is used to rank the quality and reliability of the information used to determine fair values. Financial assets and liabilities carried at fair value will be classified and disclosed in one of the following three categories:

- Level 1-Quoted prices (unadjusted) in active markets for identical assets and liabilities.
- Level 2-Inputs other than Level 1 that are observable, either directly or indirectly, such as unadjusted quoted prices for similar assets and liabilities, unadjusted quoted prices in the markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.
- Level 3-Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

Stock-Based Compensation - Stock-based compensation is measured at the grant date based on the fair value of the award. The fair value of the award that is ultimately expected to vest is recognized as expense on a straight-line basis over the requisite service period, which is generally the vesting period. The expense recognized for the portion of the award that is expected to vest has been reduced by an estimated forfeiture rate. The forfeiture rate is determined at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

Expected Term — The expected term of options represents the period that the Company's stock-based awards are expected to be outstanding based on the simplified method, which is the half-life from vesting to the end of its contractual term.

Expected Volatility — The company computes stock price volatility over expected terms based on its historical common stock trading prices.

Risk-Free Interest Rate — The Company bases the risk-free interest rate on the implied yield available on U.S. Treasury zero-coupon issues with an equivalent remaining term.

Expected Dividend — The Company has never declared or paid any cash dividends on its common shares and does not plan to pay cash dividends in the foreseeable future, and, therefore, uses an expected dividend yield of zero in its valuation models.

The Company recognizes fair value of stock options granted to nonemployees as stock-based compensation expense over the period in which the related services are received.

Preferred Stock - Preferred shares subject to mandatory redemption (if any) are classified as liability instruments and are measured at fair value. The Company classifies conditionally redeemable preferred shares, which includes preferred shares that feature redemption rights that are either within the control of the holder or subject to redemption upon the occurrence of uncertain events not solely within the Company's control, as temporary equity. At all other times, the Company classifies its preferred shares in stockholders' deficiency.

Convertible Instruments - GAAP requires companies to bifurcate conversion options from their host instruments and account for them as free standing derivative financial instruments if certain criteria are met. The criteria include circumstances in which (a) the economic characteristics and risks of the embedded derivative instrument are not clearly and closely related to the economic characteristics and risks of the host contract, (b) the hybrid instrument that embodies both the embedded derivative instrument and the host contract is not re-measured at fair value under otherwise applicable generally accepted accounting principles with changes in fair value reported in earnings as they occur and (c) a separate instrument with the same terms as the embedded derivative instrument would be considered a derivative instrument. An exception to this rule is when the host instrument is deemed to be conventional, as that term is described under applicable GAAP.

When the Company has determined that the embedded conversion options should not be bifurcated from their host instruments, the Company records, when necessary, discounts to convertible notes for the intrinsic value of conversion options embedded in debt instruments based upon the differences between the fair value of the underlying common stock at the commitment date of the note transaction and the effective conversion price embedded in the note. Debt discounts under these arrangements are amortized over the term of the related debt to their stated date of redemption. The Company also records, when necessary, deemed dividends for the intrinsic value of conversion options embedded in preferred shares based upon the differences between the fair value of the underlying common stock at the commitment date of the transaction and the effective conversion price embedded in the preferred shares.

Common Stock Purchase Warrants and Derivative Financial Instruments - The Company classifies all of its common stock purchase warrants and other derivative financial instruments as equity if the contracts (1) require physical settlement or net-share settlement or (2) give the Company a choice of net-cash settlement or settlement in its own shares (physical settlement or net-share settlement). The Company classifies as assets or liabilities any contracts that (1) require net-cash settlement (including a requirement to net cash settle the contract if an event occurs and if that event is outside the control of the Company), (2) give the counterparty a choice of net-cash settlement or settlement in shares (physical settlement or net-share settlement), or (3) that contain reset provisions. The Company assesses classification of its common stock purchase warrants and other derivatives at each reporting date to determine whether a change in classification between assets and liabilities is required.

Debt Discounts - The Company records, as a discount to notes and convertible notes, the relative fair value of warrants issued in connection with the issuances and the intrinsic value of any conversion options based upon the differences between the fair value of the underlying common stock at the commitment date of the note transaction and the effective conversion price embedded in the note. Debt discounts under these arrangements are amortized to interest expense using the interest method over the earlier of the term of the related debt or their earliest date of redemption.

Income Taxes - The Company accounts for income taxes using the liability method whereby deferred tax asset and liability account balances are determined based on differences between the financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. The Company provides a valuation allowance, if necessary, to reduce deferred tax assets to their estimated realizable value.

In evaluating the ability to recover its deferred income tax assets, the Company considers all available positive and negative evidence, including its operating results, ongoing tax planning, and forecasts of future taxable income on a jurisdiction-by-jurisdiction basis. In the event the Company determines that it would be able to realize its deferred income tax assets in the future in excess of their net recorded amount, it would make an adjustment to the valuation allowance that would reduce the provision for income taxes. Conversely, in the event that all or part of the net deferred tax assets are determined not to be realizable in the future, an adjustment to the valuation allowance would be charged to earnings in the period such determination is made.

The Company recognizes the effect of uncertain income tax positions only if those positions are more likely than not of being sustained. Recognized income tax positions are measured at the largest amount that is greater than 50% likely of being realized. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs.

The Company records interest and penalties related to uncertain tax positions in the provision for income tax expense on the consolidated statements of operations and comprehensive loss.

Net Loss Per Common Shareholder - Basic net loss per share is based upon the weighted average number of common shares outstanding. Diluted net loss per share is based on the assumption that all dilutive convertible shares and stock options were converted or exercised. Dilution is computed by applying the treasury stock method. Under this method, options, warrants and restricted stock are assumed to be exercised at the beginning of the period (or at the time of issuance, if later), and as if funds obtained thereby were used to purchase common stock at the average market price during the period.

Recently Issued Accounting Pronouncements

In July 2013, the Financial Accounting Standards Board, or the FASB, issued Accounting Standards Update, or ASU, No. 2013-11, "Presentation of an Unrecognized Tax Benefit When a Net Operating Loss Carryforward, a Similar Tax Loss, or a Tax Credit Carryforward Exists", or ASU No. 2013-11, which concludes that, under certain circumstances, unrecognized tax benefits should be presented in the financial statements as a reduction to a deferred tax asset for a net operating loss carryforward, a similar tax loss, or a tax credit carryforward. ASU No. 2013-11 will be effective for us beginning January 1, 2014. We do not anticipate that the adoption of this standard will have a material impact on our financial position or results of operations.

Results of Operations

For the Fiscal Year Ended December 31, 2013 compared to the Fiscal Year Ended December 31, 2012

During the fiscal years ended December 31, 2013 and December 31, 2012, we generated no revenue. Operating expenses for the year ended December 31, 2013 increased to \$5,711,134 as compared to \$4,090,342 for the year ended December 31, 2012 primarily due to increased research and development expenses. Accordingly, this resulted in a loss from operations of \$5,711,134 for the year ended December 31, 2013 as compared to a loss from operations of \$4,090,342 for the year ended December 31, 2012.

Research and development costs for the year ended December 31, 2013 were \$2,088,992 as compared to \$583,869 for the year ended December 31, 2012. In 2013, research and development expenses increased \$1,505,123 or 258% primarily due to increased costs related to technical consultants, stock based compensation, preclinical research studies and other product development costs.

General and administrative costs for the year ended December 31, 2013 were \$3,622,142 as compared to \$3,506,473 for the year ended December 31, 2012. In 2013, general and administrative expenses increased \$115,669 or 3% primarily due to increased patent related legal costs, investor and public relations services, outside services and stock based compensation. These increases were largely offset by reduced consulting expenses in 2013.

For the year ended December 31, 2013, we incurred interest expense of \$2,630,914 and other income totaling \$0 as compared to \$1,518,420 and \$11,862, respectively, for the year ended December 31, 2012. The change in interest expense was attributable to the increased debt financing activity in the year ended December 31, 2013. For the year ended December 31, 2013, we incurred a loss on the issuance of convertible notes of \$6,708,728 as compared to \$0 for the year ended December 31, 2012. For the year ended December 31, 2013, we incurred a loss on the issuance of common stock of \$352,096 as compared to \$0 for the year ended December 31, 2012. For the year ended December 31, 2013, the change in fair value of warrants and derivatives liabilities generated other income of \$271,191 as compared to \$485,006 for the year ended December 31, 2012.

We incurred a net loss for the year ended December 31, 2013 of \$15,131,681 as compared to \$5,135,618 for the year ended December 31, 2012, an increase of \$9,996,063. This change is attributable to the increase in operating expenses of \$1,620,792 and an increase in total interest and other income/expense of \$8,375,271.

Liquidity and Capital Resources

As of December 31, 2013, the Company had total current assets of \$1,247,820 consisting of \$1,032,634 in cash and cash equivalents and \$215,186 in prepaid expenses and other current assets. As of December 31, 2013, the Company had current liabilities in the amount of \$8,539,190, consisting of:

Accounts payable	\$971,199
Accrued liabilities	\$292,395
Accrued interest	\$112,124
Related party liabilities	\$247,967
8% Senior convertible debentures	\$931,942
Convertible promissory notes	\$124,393
Derivative liability	\$5,859,170

As of December 31, 2013, the Company had a working capital deficit in the amount of \$7,219,370 compared to a deficit of \$4,059,959 at December 31, 2012.

The table below sets forth selected cash flow data for the periods presented:

	2013	2012
Net cash provided by (used in) operating activities	\$(3,473,237)	\$(1,154,726)
Net cash provided by (used in) investing activities	(70,000)	(56,000)
Net cash provided by (used in) financing activities	4,418,697	1,366,430
Net increase (decrease) in cash and cash equivalents	\$875,460	\$156,704

We consummate financing transactions with various investors in 2013 as follows.

On March 7, 2014, the Company signed a \$20 million purchase agreement with Lincoln Park Capital Fund, LLC, an Illinois limited liability company. Upon signing the Purchase Agreement LPC agreed to purchase 4,000,000 shares of

our common stock for \$400,000 as an initial purchase under the agreement. We also entered into a registration rights agreement with LPC whereby we agreed to file a registration statement related to the transaction with the SEC covering the shares that may be issued to Lincoln Park Capital Fund under the Purchase Agreement within ten days after the date the Company files with the SEC in this annual report on Form 10-K. After the SEC has declared effective the registration statement related to the transaction, we have the right, in our sole discretion, over a 30-month period to sell up to an additional \$19.6 million of our common stock to Lincoln Park Capital Fund in amounts up to \$500,000 per sale, depending on certain conditions as set forth in the Purchase Agreement. There are no upper limits to the price Lincoln Park Capital Fund may pay to purchase our common stock and the purchase price of shares of Common Stock sold pursuant to the Purchase Agreement will be based on prevailing market prices of our Common Stock at the time of sales without any fixed discount, and the Company will control the timing and amount of any sales of Common Stock to Lincoln Park Capital Fund. In addition, the Company may direct Lincoln Park Capital Fund to purchase additional amounts as accelerated purchases if on the date of a regular purchase the closing sale price of the Common Stock is not below the threshold price as set forth in the Purchase Agreement. Lincoln Park Capital Fund shall not have the right or the obligation to purchase any shares of our common stock on any business day that the price of our common stock is below the floor price as set forth in the Purchase Agreement.

The purchase agreement contains customary representations, warranties, covenants, closing conditions and indemnification and termination provisions by, among and for the benefit of the parties. LPC has covenanted not to cause or engage in any manner whatsoever, any direct or indirect short selling or hedging of the Company's shares of common stock. In consideration for entering into the \$20 million agreement, we issued to LPC 6,000,000 shares of our common stock and may issue up to an additional 3,500,000 shares pro rata if and when we sell to Lincoln Park Capital Fund up to an additional \$19.6 million of our common stock. The agreement may be terminated by us at any time at our discretion without any monetary cost to us. Actual sales of shares of Common Stock to LPC under the agreement will depend on a variety of factors to be determined by the Company from time to time, including (among others) market conditions, the trading price of the Common Stock and determinations by the Company as to available and appropriate sources of funding for the Company and its operations. The proceeds received by the Company under the agreement are expected to be used for product development, commercialization, strategic acquisitions, and general corporate purposes.

The success of our business plan during the next 12 months and beyond is contingent upon us generating sufficient revenue to cover our costs of operations, or upon us obtaining additional financing. Should our revenues be less than anticipated, or should our expenses be greater than anticipated, then we may seek to obtain business capital through the use of private and public equity fundraising or shareholder loans. There can be no assurance that such additional financing will be available to us on acceptable terms, or at all. Similarly, there can be no assurance that we will be able to generate sufficient revenue to cover the costs of our business operations. We will use all commercially-reasonable efforts at our disposal to raise sufficient capital to run our operations on a go forward basis.

Off Balance Sheet Arrangements

Not applicable

Going Concern

We are a development stage company engaged in biotechnology research and development. We have suffered recurring losses from operations since inception, and have generated negative cash flows from operations. For these reasons, in its report dated April 21, 2014, our auditors have raised a substantial doubt about our ability to continue as a going concern. Our financial statements have been prepared assuming that we will continue as a going concern which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. We expect to incur further losses in the development of our business and have been dependent on funding operations through the issuance of convertible debt and private sale of equity securities. These conditions raise substantial doubt about our ability to continue as a going concern. Management's plans include continuing to finance operations through the private or public placement of debt and/or equity securities and the acquisition of non-dilutive forms of financing including grants. However, no assurance can be given at this time as to whether we will be able to achieve these objectives. The financial statements do not include any adjustment relating to the recoverability and classification of

recorded asset amounts or the amounts and classification of liabilities that might be necessary should we become unable to continue as a going concern.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

Not applicable.

Item 8. Financial Statements and Supplementary Data.

The financial statements are included herein commencing on page F-1.

Index to Financial Statements Required by Article 8 of Regulation S-X:

Audited Financial Statements:

F-1 Reports of Independent Registered Public Accounting Firm

F-3 Consolidated Balance Sheets as of December 31, 2013 and 2012;

F-4 Consolidated Statements of Operations for the years ended December 31, 2013 and 2012, and for the period from inception to December 31, 2013;

F-6 Consolidated Statements of Stockholders' Equity (Deficit) for the years ended December 31, 2013 and 2012, and the period from inception to December 31, 2013;

F-7 Consolidated Statements of Cash Flows for the years ended December 31, 2013 and 2012, and for the period from inception to December 31, 2013;

F-8 Notes to the Consolidated Financial Statements

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of

Amarantus Bioscience Holdings, Inc.

(A Development Stage Company)

We have audited the accompanying consolidated balance sheet of Amaranthus Bioscience Holdings, Inc. (the “Company”) (a development stage company) as of December 31, 2013 and the related consolidated statements of operations, changes in stockholders’ equity (deficit) and cash flows for the year then ended. The consolidated financial statements for the period from January 14, 2008 (inception) through December 31, 2012 were audited by other auditors. The consolidated financial statements for the period from January 14, 2008 (inception) to December 31, 2012 include total revenues and net loss applicable to common stockholders of \$415,996 and \$11,496,177, respectively. Our opinion on the consolidated statements of operations, changes in stockholders’ equity (deficit) and cash flows for the period from January 14, 2008 (inception) to December 31, 2013, insofar as it relates to amounts through December 31, 2012 is based solely on the report of the other auditor. These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on these consolidated financial statements based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall consolidated financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, based on our audit and the report of the predecessor independent registered public accounting firm, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Amaranthus Bioscience Holdings, Inc. as of December 31, 2013, and the consolidated results of their operations and their cash flows for the year ended December 31, 2013 and for the period from January 14, 2008 (inception) to December 31, 2013 in conformity with accounting principles generally accepted in the United States of America.

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The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 2 to the consolidated financial statements, the Company has suffered substantial losses from operations and its liabilities exceed its assets. These matters raise substantial doubt about its ability to continue as a going concern. Management's plans concerning these matters are also discussed in Note 2 to the consolidated financial statements. The accompanying consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ Marcum LLP

New York, NY
April 21, 2014

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Silberstein Ungar, PLLC CPAs and Business Advisors

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of

Amarantus Bioscience Holdings, Inc.

Sunnyvale, California

We have audited the consolidated balance sheet of Amaranthus Bioscience Holdings, Inc., a development stage company (the “Company”), as of December 31, 2012 and 2011, and the related consolidated statements of operations, stockholders’ deficit, and cash flows for the years then ended, and for the period from January 14, 2008 (date of inception) to December 31, 2012. These financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. The company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the company’s internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Amarantus Bioscience Holdings, Inc. as of December 31, 2012 and 2011, and the results of its operations and its cash flows for the years then ended, and for the period from January 14, 2008 (date of inception) to December 31, 2012, in conformity with accounting principles generally accepted in the United States of America.

The accompanying financial statements have been prepared assuming the Company will continue as a going concern. The Company is a development stage company engaged in biotechnology research and development. The Company has suffered recurring losses from operations since inception, has a working capital deficit, and has generated negative cash flow from operations that raises substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are described in Note 2 to the financial statements. The financial statements do not include any adjustments that might result from the outcome of these uncertainties.

/s/ Silberstein Ungar, PLLC

Silberstein Ungar, PLLC

Bingham Farms, Michigan

April 16, 2013

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Amarantus Bioscience Holdings, Inc.**(A development stage company)****Consolidated Balance Sheets**

	December 31,	
	2013	2012
Assets		
Current assets:		
Cash and cash equivalents	\$1,032,634	\$157,174
Prepaid expenses and other current assets	215,186	520,620
Total current assets	1,247,820	677,794
Intangible assets	611,094	532,143
Total assets	\$1,858,914	\$1,209,937
Liabilities and Stockholders' Equity (Deficit)		
Current liabilities:		
Accounts payable	\$971,199	\$2,596,848
Accrued liabilities	292,395	18,746
Accrued interest	112,124	109,861
Related party liabilities	247,967	243,525
Convertible notes payable	—	740,000
Warrant liability	—	232,988
8% Senior convertible debentures	931,942	—
Convertible promissory notes	124,393	768,892
Derivative liability	5,859,170	26,893
Total current liabilities	8,539,190	4,737,753
Total liabilities	8,539,190	4,737,753
Commitments and contingencies		
Series D convertible preferred stock (\$1,000 stated value; 1,300 shares designated and authorized; 1,299.327 and -0- shares issued and outstanding as of December 31, 2013 and December 31, 2012, respectively)	838,894	—
Stockholders' equity (deficit):		
Convertible preferred stock, \$0.001 par value — 10,000,000 shares authorized at December 31, 2013 and December 31, 2012, respectively:		
Series A, \$0.001 par value, 250,000 shares designated, -0- and 250,000 shares issued and outstanding as of December 31, 2013 and December 31, 2012, respectively	—	250
Series B, \$0.001 par value, 2,500,000 shares designated, -0- shares issued and outstanding as of December 31, 2013 and December 31, 2012, respectively	—	—
Series C, \$0.001 par value, 750,000 shares designated, 750,000 and -0- shares issued and outstanding as of December 31, 2013 and December 31, 2012, respectively	750	—
Common stock, \$0.001 par value — 1,000,000,000 shares authorized at December 31, 2013 and 2012, respectively; 574,171,945 and 342,516,931 shares issued and	574,172	342,517

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outstanding at December 31, 2013 and 2012, respectively

Additional paid-in capital	18,938,039	7,991,465
Deficit accumulated during the development stage	(27,032,131)	(11,862,048)
Total stockholders' equity (deficit)	(7,519,170)	(3,527,816)
Total liabilities and stockholders' equity (deficit)	\$1,858,914	\$1,209,937

The accompanying notes are an integral part of these consolidated financial statements.

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Amarantus Bioscience Holdings, Inc.**(A development stage company)****Consolidated Statements of Operations**

	Year Ended December 31,		Cumulative Period From January 14, 2008 (Date of Inception) to December 31, 2013
	2013	2012	
Net Revenues	\$—	\$—	\$415,996
Operating Expenses:			
Research and development	2,088,992	583,869	4,278,647
General and administrative	3,622,142	3,506,473	11,573,062
Total operating expenses	5,711,134	4,090,342	15,851,709
Loss from operations	(5,711,134)	(4,090,342)	(15,435,713)
Other income (expense):			
Interest expense	(2,630,914)	(1,518,420)	(5,360,513)
Loss on issuance of common stock	(352,096)	—	(352,096)
Loss on issuance of debt	(6,708,728)	—	(6,708,728)
Other income (expense)	—	(11,862)	75,827
Change in fair value of warrants and derivative liabilities	271,191	485,006	1,153,365
Total other income (expense)	(9,420,547)	(1,045,276)	(11,192,145)
Net loss	\$(15,131,681)	\$(5,135,618)	\$(26,627,858)
Preferred stock dividend	38,402	—	38,402
Net loss applicable to common stockholders	\$(15,170,083)	\$(5,135,618)	\$(26,666,260)
Per share net loss applicable to common stockholders':			
Basic and fully diluted	\$(0.03)	\$(0.04)	
Weighted average shares used in computing basic loss per share:			
Basic and fully diluted	450,931,510	140,710,454	

The accompanying notes are an integral part of these consolidated financial statements.

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Amarantus Bioscience Holdings, Inc.**(A Development Stage Company)****Consolidated Statements of Stockholders' Equity (Deficit)****Period from January 14, 2008 (Date of Inception) to December 31, 2013**

	Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Deficit Accumulated during the Development Stage	Total Stockholders' Equity (Deficit)
	Shares	Amount	Shares	Amount			
Balances as of January 14, 2008	—	\$—	—	\$—	\$—	\$—	\$—
Issuance of common stock in December 2006 at \$0.001 per share in exchange for cash or services	—	—	4,020,000	4,020	—	—	4,020
Sale of warrant to investor	—	—	—	—	35	—	35
Dividend to founder for assumption of debts	—	—	—	—	—	(365,870)	(365,870)
Net loss	—	—	—	—	—	(406,706)	(406,706)
Balances as of December 31, 2008	—	—	4,020,000	4,020	35	(772,576)	(768,521)
Net loss	—	—	—	—	—	(306,190)	(306,190)
Balances as of December 31, 2009	—	—	4,020,000	4,020	35	(1,078,766)	(1,074,711)
Issuance of Series 1 convertible preferred stock in May 2010 for cash at \$0.40 per share — net of issuance costs of \$50,000	1,250,000	450,000	—	—	—	—	450,000
Issuance of Series 1 convertible preferred stock in October 2010 in exchange for convertible promissory notes)	488,354	195,342	—	—	—	—	195,342
Issuance of Series 1 convertible preferred stock in November 2010 for cash at \$0.40 per share	100,000	40,000	—	—	—	—	40,000
Preferred stock warrants reclassified from liabilities expense	—	—	—	—	37,110	—	37,110
	—	—	—	—	25,175	—	25,175

Stock-based compensation expense							
Net loss	—	—	—	—	—	(1,207,561)	(1,207,561)
Balances as of December 31, 2010	1,838,354	\$685,342	4,020,000	\$4,020	\$62,320	\$(2,286,327)	\$(1,534,645)

The accompanying notes are an integral part of these consolidated financial statements

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Amarantus Bioscience Holdings, Inc.**(A development stage company)****Consolidated Statements of and Stockholders' Equity (Deficit)****Period from January 14, 2008 (Date of Inception) to December 31, 2013**

	Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Deficit	
	Shares	Amount	Shares	Amount		Accumulated during the Development Stage	Total Stockholders' Equity (Deficit)
Balances as of January 1, 2010	1,838,354	\$ 685,342	4,020,000	\$ 4,020	\$ 62,320	\$(2,286,327)	\$(1,534,645)
Preferred shares converted to common	(1,838,354)	(685,342)	1,838,354	1,838	683,504	—	—
Option exercises	—	—	1,469,338	1,469	181,893	—	183,362
Merger record ATI shares retired	—	—	(7,327,692)	(7,327)	—	—	(7,327)
Effect of reverse recapitalization merger	—	—	45,500,000	45,500	(33,487)	—	12,013
Merger issuance of stock and record shell common	—	—	21,500,000	21,500	—	—	21,500
Option exercise post merger	—	—	737,357	738	16,718	—	17,456
Issuance of common stock	—	—	13,199,235	13,199	1,754,535	—	1,767,734
Merger expenses	—	—	—	—	(26,186)	—	(26,186)
Stock-based compensation	—	—	—	—	656,252	—	656,252

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expense							
Net loss	—	—	—	—	—	(4,440,103)	(4,440,103)
Balances as of							
December 31,							
2011	—	—	80,936,592	80,937	3,295,549	(6,726,430)	(3,349,944)
Issuance of preferred stock for services	250,000	250	—	—	249,750	—	250,000
Issuance of common stock	—	—	261,580,339	261,580	4,062,562	—	4,324,142
Stock-based compensation expense	—	—	—	—	383,604	—	383,604
Net loss	—	—	—	—	—	(5,135,618)	(5,135,618)
Balances as of							
December 31,							
2012	250,000	250	342,516,931	342,517	7,991,465	(11,862,048)	(3,527,816)
Preferred stock - Series A converted to common	(250,000)	(250)	8,094,117	8,094	118,840	—	126,684
Preferred stock - Series C issued to officers as compensation	750,000	750	—	—	37,800	—	38,550
Common stock issued for services	—	—	21,199,822	21,200	838,813	—	860,013
Common stock issued to acquire intangible assets	—	—	2,000,000	2,000	77,000	—	79,000
Common stock issued in settlement of accounts payable	—	—	7,430,922	7,431	252,229	—	259,660
Common stock issued in settlement of notes payable	—	—	93,860,499	93,860	2,106,140	—	2,200,000
Common stock issued upon conversion of convertible promissory notes	—	—	98,455,794	98,456	1,460,739	—	1,559,195
Common stock issued for	—	—	413,860	414	12,002	(12,416)	—

Series D convertible preferred stock dividend							
Loss on issuance of common stock	—	—	—	—	352,096	—	352,096
Common stock issued upon exercise of common stock options	—	—	200,000	200	(200)	—	—
Debt discount written off - associated with convertible promissory notes	—	—	—	—	(250,000)	—	(250,000)
Beneficial conversion feature - debt discount - convertible promissory notes			—	—	225,996	—	225,996
Beneficial conversion feature - Series D Convertible Preferred stock			—	—	320,500	—	320,500
Relative fair value associated with senior secured convertible debentures issued with detachable warrants			—	—	1,938,930	—	1,938,930
Convertible promissory notes converted and associated reclassification of derivative liability			—	—	2,712,000	—	2,712,000
Series D convertible preferred stock 8% dividend accrued at			—	—	—	(25,986)	(25,986)

period end							
Stock-based							
compensation	—	—	—	—	743,689	—	743,689
expense							
Net loss	—	—	—	—	—	(15,131,681)	(15,131,681)
Balances as of							
December 31,	750,000	\$750	574,171,945	\$574,172	18,938,039	\$(27,032,131)	\$(7,519,170)
2013							

The accompanying notes are an integral part of these consolidated financial statements

Amarantus Bioscience Holdings, Inc.**(A development stage company)****Consolidated Statements of Cash Flows**

	Year Ended December 31,		Cumulative Period From January 14, 2008 (Date of Inception) to December 31, 2013
	2013	2012	2013
Cash flows from operating activities			
Net loss	\$(15,131,681)	\$(5,135,618)	\$(26,627,858)
Adjustments to reconcile net loss to net cash used in operating activities			
Depreciation and amortization	—	7,260	33,014
Amortization of debt discount	1,768,093	655,881	2,423,974
Amortization of deferred financial costs	253,110	13,091	266,201
Amortization of intangibles	70,049	—	70,049
Stock issued for services	860,013	1,637,696	2,497,709
Loss on debt issuance	6,708,728	—	6,708,728
Loss on stock issuance	352,096	672,414	1,024,510
Gain on disposal of equipment	—	1,129	(2,621)
Preferred stock Series C issued as compensation	38,550	—	38,550
Stock-based compensation expense	743,689	383,604	1,808,720
Non-cash interest expense related to warrants and derivatives	—	—	763,316
Change in fair value of warrants and derivative liabilities	(271,191)	(485,006)	(1,148,597)
Common stock issued at conversion of Series A preferred stock	126,684	—	126,684
Gain on settlement of convertible note and warrants	—	—	(137,632)
Changes in assets and liabilities			
Prepaid expenses and other current assets	367,757	(166,025)	(133,766)
Accounts payable	87,719	1,184,118	3,478,376
Accrued liabilities and other non-current liabilities	548,705	77,477	743,732
Related party liabilities	4,442	(147)	(139,345)
Net cash used in operating activities	(3,473,237)	(1,154,126)	(8,206,256)
Cash flows from investing activities			
Acquisition of property and equipment	—	—	(40,392)
Acquisition of other assets	(70,000)	(55,000)	(125,000)
Security deposit write-off	0	(1,000)	(1,000)
Net cash used in investing activities	(70,000)	(56,000)	(166,392)

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Cash flows from financing activities			
Proceeds from borrowings	5,047,846	1,413,430	7,718,824
Repayment of borrowings	(303,715)	(47,000)	(450,715)
Proceeds from issuance of common stock	—	—	1,797,941
Proceeds from issuance of stock options	—	—	200,818
Proceeds from issuance of convertible preferred stock	—	—	540,000
Costs of financings	(325,434)	—	(401,621)
Proceeds from sale of warrant	—	—	35
Net cash provided by financing activities	4,418,697	1,366,430	9,405,282
Net increase (decrease) in cash and cash equivalents	875,460	156,304	1,032,634
Cash and cash equivalents, beginning of period	157,174	870	—
Cash and cash equivalents, end of period	\$1,032,634	\$157,174	\$1,032,634

The accompanying notes are an integral part of these consolidated financial statements.

Amarantus Bioscience Holdings, Inc.**(A development stage company)****Consolidated Statements of Cash Flows**

	Year Ended December 31,		Cumulative Period From January 14, 2008 (Date of Inception) to December 31, 2013
	2013	2012	
Supplemental schedule of non-cash activities:			
Bifurcation of derivatives embedded in convertible notes	\$—	\$—	\$ 548,053
Beneficial conversion feature - Series D convertible preferred stock	320,500	—	320,500
Beneficial conversion feature - debt discount - convertible promissory notes	225,996	—	225,996
Relative fair value associated with senior secured convertible debentures issued with detachable warrants	1,938,930	—	1,938,930
Convertible promissory notes converted and associated reclassification of derivative liability	2,712,000	—	2,712,000
Debt discount written off - associated with convertible promissory notes	(250,000)	—	(250,000)
Debt discount associated with convertible promissory notes - derivative liability	812,500	—	812,500
Stock warrants reclassified from liabilities to equity	—	—	39,142
Preferred stock issued in lieu of payment of payable	—	250,000	250,000
Preferred stock Series D issued for accounts payable	1,169,394	—	1,169,394
Convertible promissory notes issued for payables and accrued liabilities	123,410	305,932	653,037
Convertible notes payable issued for accounts payables	160,715	—	160,715
Issuance of warrants to investors	—	371,180	371,180
Stock issued for prepaid expenses	—	31,188	31,188
Payables forgiven for property and equipment	—	10,000	10,000
Stock issued to acquire intangible assets	79,000	477,143	556,143
Stock issued to satisfy accounts payable and accrued expenses	259,660	560,808	820,468
Stock issued for notes payable	2,200,000	—	2,200,000
Stock issued for convertible debt	1,559,195	964,982	2,524,177
Intrinsic value of beneficial conversion feature	—	224,985	224,985
Reclassification of warrants to APIC	—	2,032	2,032
Supplemental Cash Flow Information:			
Interest paid	60,553	—	60,533

The accompanying notes are an integral part of these consolidated financial statements.

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Amarantus Bioscience Holdings, Inc.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

FOR THE YEARS ENDED DECEMBER 31, 2013 and 2012, and

for the period from January 14, 2008 (date of inception) to December 31, 2013

1. General

Amarantus Bioscience Holdings, Inc. (the “Company”) is a Nevada corporation that was formed to facilitate a merger with Amaranthus BioScience, Inc., a Delaware corporation that was incorporated on January 14, 2008. The Company is a development stage biopharmaceutical drug development company dedicated to sourcing high-potential therapeutic platform technologies and aligning their development with complementary clinical-stage compounds to reduce overall enterprise risk. Through December 31, 2013, the Company has been primarily engaged in biotechnology research and development and raising capital to fund its operations.

On April 5, 2013, the Company (formerly known as Amaranthus Bioscience, Inc.) filed a Certificate of Amendment to its Articles of Incorporation with the Secretary of State of Nevada, pursuant to which the Company’s name was changed from Amaranthus Bioscience, Inc. to Amaranthus Bioscience Holdings, Inc.

2. Development Stage and Going Concern

The Company’s activities since inception have consisted principally of acquiring product and technology rights, raising capital, and performing research and development. The Company is considered to be in the development stage as of December 31, 2013, as our principal commercial operations have not commenced. Successful completion of the Company’s development programs and, ultimately, the attainment of profitable operations are dependent on future events, including, among other things, its ability to access potential markets; secure financing, develop a customer base; attract, retain and motivate qualified personnel; and develop strategic alliances. From inception, the Company has been funded by a combination of equity and debt financings. Although management believes that the Company will be able to successfully fund its operations, there can be no assurance that the Company will be able to do so or that the Company will ever operate profitably.

The Company expects to continue to incur substantial losses over the next several years during its development phase. To fully execute its business plan, the Company will need to complete certain research and development activities and clinical studies. Further, the Company’s product candidates will require regulatory approval prior to commercialization. These activities may span many years and require substantial expenditures to complete and may ultimately be unsuccessful. Any delays in completing these activities could adversely impact the Company. The Company plans to meet its capital requirements primarily through issuances of debt and equity securities and, in the longer term, revenue from product sales.

The accompanying financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America (GAAP), which contemplate continuation of the Company as a going concern. As of December 31, 2013, the Company had cash and cash equivalents of \$1,032,634. During the year ended December 31, 2013, the Company incurred a net loss of \$15,131,681 and had negative cash flows from operating activities of \$3,473,237. In addition, the Company had an accumulated deficit of \$27,032,131 at December 31, 2013. The Company believes its current capital resources are not sufficient to support its operations. Management intends to continue its research efforts and to finance operations of the Company through debt and/or equity financings. Management plans to seek additional debt and/or equity financing through private or public offerings or through a business combination or strategic partnership. There can be no assurance that the Company will be successful in obtaining additional financing on favorable terms, or at all. These matters raise substantial doubt about the Company's ability to continue as a going concern. The financial statements do not include any adjustments that might result from the outcome of these uncertainties.

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SIGNIFICANT ACCOUNTING POLICIES

Principles of Consolidation - The Consolidated Financial Statements include the accounts of Amaranthus BioScience Holdings, Inc. and its subsidiaries. All significant intercompany accounts and transactions have been eliminated.

Use of Estimates - The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and reported amounts of expenses during the reporting period. Actual results could differ from those estimates.

Certain Significant Risks and Uncertainties - The Company participates in a global, dynamic, and highly competitive industry and believes that changes in any of the following areas could have a material adverse effect on the Company's future financial position, results of operations, or cash flows: ability to obtain future financing; advances and trends in new technologies and industry standards; regulatory approval and market acceptance of the Company's products; development of the necessary manufacturing capabilities and the Company's ability to obtain adequate resources of necessary materials; development of sales channels; certain strategic relationships; litigation or claims against the Company based on intellectual property, patent, product, regulatory, or other factors; and the Company's ability to attract and retain employees and other resources necessary to support its growth.

Concentration of Credit Risk - Financial instruments that potentially subject the Company to concentrations of credit risk consist of cash and cash equivalents. The Company places its cash and cash equivalents with domestic financial institutions that are federally insured within statutory limits.

Cash and Cash Equivalents - The Company considers all highly liquid investments purchased with an original maturity of three months or less to be cash equivalents.

Intangible Assets - Intangible assets or certain rights to use certain intangible assets for the Company's research and development activities are capitalized as assets in cases where the Company has determined that those assets have an identifiable alternative future use in accordance with US GAAP. If the Company concludes that those assets have useful lives that are indeterminable then they are assumed to be indefinite lived unless. In 2013 the Company determined that the useful lives of those assets can be reasonable estimated and in which case those assets are being amortized to expense over their estimated useful lives of between 10.9 years and 18.5 years depending on the patent expire date.

Impairment of Long-Lived Assets- The Company reviews the carrying value of long-lived assets, including intangible assets and property and equipment, for impairment whenever events or changes in circumstances indicate that the carrying value may not be fully recoverable. There have been no impairments for the years ended December 31, 2013 and 2012.

Restatement of Prior Quarters

In the fourth quarter of 2013, we discovered that some of the amounts we had previously reported in prior quarters had not been recorded correctly. The adjustments to correct for accounting differences were made in the fourth quarter of 2013 and are primarily related to our accounting for convertible note obligations.

The following table sets forth the effects of the restatement on affected items within our previously reported Consolidated Balance Sheets for the periods ended March 31, 2013, June 30, 2013 and September 30, 2013 had the adjustments been made in the corresponding quarters.

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	March 31, 2013		June 30, 2013		September 30, 2013	
	As Reported	As Restated	As Reported	As Restated	As Reported	As Restated
Derivative liabilities	921,954	794,468	250,011	419,239	1,544,443	2,427,367
Convertible promissory notes	328,727	328,726	674,161	631,961	485,936	475,780
Total Liabilities	6,165,888	6,038,401	5,576,483	5,703,511	4,664,706	5,537,474
Additional paid in capital	9,367,041	11,274,893	10,728,916	12,678,967	13,760,385	16,053,726
Deficit accumulated during the development stage	(14,719,336)	(16,499,701)	(15,620,221)	(17,697,300)	(17,645,773)	(20,737,511)
Stockholder's deficit	\$(4,967,128)	\$(4,839,641)	\$(4,449,302)	\$(4,576,330)	\$(3,354,569)	\$(4,152,966)

The following table sets forth the effects of the restatement on affected items within our previously reported Consolidated Statement of Operations for the three months ended March 31, 2013, June 30, 2013 and September 30, 2013 had the adjustments been made in the corresponding quarters.

	March 31, 2013		June 30, 2013		September 30, 2013	
	As Reported	As Restated	As Reported	As Restated	As Reported	As Restated
Operating loss	\$(1,884,597)	\$(1,884,597)	\$(1,304,475)	\$(1,304,475)	\$(678,548)	\$(678,548)
Non-operating income (loss)	(972,691)	(2,753,056)	403,590	106,876	(1,346,964)	(2,361,623)
Net loss	(2,857,288)	(4,637,653)	(900,885)	(1,197,599)	(2,025,512)	(3,040,171)
Net loss per common share, basic and diluted	\$(0.01)	\$(0.01)	\$(0.00)	\$(0.00)	\$(0.00)	\$(0.01)

The following table sets forth the effects of the restatement on affected items within our previously reported Consolidated Statement of Operations for the six and nine months ended June 30, 2013 and September 30, 2013, respectively had the adjustments been made in the corresponding quarters.

	June 30, 2013		September 30, 2013	
	As Reported	As Restated	As Reported	As Restated
Operating loss	\$(3,189,072)	\$(3,189,072)	\$(3,867,619)	\$(3,867,619)
Non-operating loss	(569,101)	(2,646,180)	(1,916,066)	(5,007,804)
Net Loss	\$(3,758,173)	\$(5,835,252)	\$(5,783,685)	\$(8,875,423)
Net loss per common share, basic and diluted	\$(0.01)	\$(0.01)	\$(0.01)	\$(0.02)

Revenue Recognition - The Company recognizes revenue when the earnings process is complete, when revenue is realized or realizable and earned, when persuasive evidence a revenue arrangement exists, delivery of goods or services has occurred, the sales price is fixed or determinable, and collectability is reasonably assured.

The Company accounts for milestones related to research and development activities in accordance with the milestone method of revenue recognition of Accounting Standards Codification Topic 605-28, under which consideration contingent on the achievement of a substantive milestone is recognized in its entirety in the period when the milestone is achieved. A milestone is considered to be substantive when it meets all of the following criteria: the milestone is commensurate with either the performance required to achieve the milestone or the enhancement of the value of the delivered items resulting from the performance required to achieve the milestone; the milestone relates solely to past performance; and, the milestone is reasonable relative to all of the deliverables and payment terms within the agreement.

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To date, the Company has only received research grant revenue and contract revenue. Research grant revenue and contract revenue is recognized as the Company provides the services stipulated in the underlying agreement based on the time and expenditures incurred, and all terms required in the agreement have been met. Amounts received in advance of services provided are recorded as deferred revenue and amortized as revenue when the services are provided.

Research and Development Expenditures - Research and development expenses consist of personnel costs, including salaries, benefits and stock-based compensation, materials and supplies, licenses and fees, and overhead allocations consisting of various administrative and facilities related costs. Research and development activities are also separated into three main categories: research, clinical development, and biotechnology development. Research costs typically consist of preclinical and toxicology costs. Clinical development costs include costs for Phase 1 and 2 clinical studies. Biotechnology development costs consist of expenses incurred in connection with product formulation and analysis. The Company charges research and development costs, including clinical study costs, to expense when incurred.

Fair Value of Financial Instruments - The fair value of certain of the Company's financial instruments, including cash and cash equivalents, accrued compensation, and other accrued liabilities, approximate cost because of their short maturities. The Company measures the fair value of certain of its financial assets and liabilities on a recurring basis. A fair value hierarchy is used to rank the quality and reliability of the information used to determine fair values. Financial assets and liabilities carried at fair value will be classified and disclosed in one of the following three categories:

- Level 1-Quoted prices (unadjusted) in active markets for identical assets and liabilities.
- Level 2-Inputs other than Level 1 that are observable, either directly or indirectly, such as unadjusted quoted prices for similar assets and liabilities, unadjusted quoted prices in the markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.
- Level 3-Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

Stock-Based Compensation - Stock-based compensation is measured at the grant date based on the fair value of the award. The fair value of the award that is ultimately expected to vest is recognized as expense on a straight-line basis over the requisite service period, which is generally the vesting period. The expense recognized for the portion of the award that is expected to vest has been reduced by an estimated forfeiture rate. The forfeiture rate is determined at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

Expected Term — The expected term of options represents the period that the Company's stock-based awards are expected to be outstanding based on the simplified method, which is the half-life from vesting to the end of its contractual term.

Expected Volatility — The Company computes stock price volatility over expected terms based on its historical common stock trading prices.

Risk-Free Interest Rate — The Company bases the risk-free interest rate on the implied yield available on U.S. Treasury zero-coupon issues with an equivalent remaining term.

Expected Dividend — The Company has never declared or paid any cash dividends on its common shares and does not plan to pay cash dividends in the foreseeable future, and, therefore, uses an expected dividend yield of zero in its valuation models. The Company recognizes fair value of stock options granted to nonemployees as stock-based compensation expense over the period in which the related services are received.

Preferred Stock - Preferred shares subject to mandatory redemption (if any) are classified as liability instruments and are measured at fair value. The Company classifies conditionally redeemable preferred shares, which includes preferred shares that feature redemption rights that are either within the control of the holder or subject to redemption upon the occurrence of uncertain events not solely within the Company's control, as temporary equity. At all other times, the Company classifies its preferred shares in stockholders' deficiency.

Convertible Instruments – The Company bifurcates conversion options from their host instruments and account for them as free standing derivative financial instruments if certain criteria are met. The criteria include circumstances in which (a) the economic characteristics and risks of the embedded derivative instrument are not clearly and closely related to the economic characteristics and risks of the host contract, (b) the hybrid instrument that embodies both the embedded derivative instrument and the host contract is not re-measured at fair value under otherwise applicable generally accepted accounting principles with changes in fair value reported in earnings as they occur and (c) a separate instrument with the same terms as the embedded derivative instrument would be considered a derivative instrument. An exception to this rule is when the host instrument is deemed to be conventional, as that term is described under applicable GAAP.

When the Company has determined that the embedded conversion options should not be bifurcated from their host instruments, the Company records, when necessary, discounts to convertible notes for the intrinsic value of conversion options embedded in debt instruments based upon the differences between the fair value of the underlying common stock at the commitment date of the note transaction and the effective conversion price embedded in the note. Debt discounts under these arrangements are amortized over the term of the related debt to their stated date of redemption. The Company also records, when necessary, deemed dividends for the intrinsic value of conversion options embedded in preferred shares based upon the differences between the fair value of the underlying common stock at the commitment date of the transaction and the effective conversion price embedded in the preferred shares.

Common Stock Purchase Warrants and Derivative Financial Instruments - The Company classifies all of its common stock purchase warrants and other derivative financial instruments as equity if the contracts (1) require physical settlement or net-share settlement or (2) give the Company a choice of net-cash settlement or settlement in its own shares (physical settlement or net-share settlement). The Company classifies as assets or liabilities any contracts that (1) require net-cash settlement (including a requirement to net cash settle the contract if an event occurs and if that event is outside the control of the Company), (2) give the counterparty a choice of net-cash settlement or settlement in shares (physical settlement or net-share settlement), or (3) that contain reset provisions. The Company assesses classification of its common stock purchase warrants and other derivatives at each reporting date to determine whether a change in classification between assets and liabilities is required.

Debt Discounts - The Company records, as a discount to notes and convertible notes, the relative fair value of warrants issued in connection with the issuances and the intrinsic value of any conversion options based upon the differences between the fair value of the underlying common stock at the commitment date of the note transaction and the effective conversion price embedded in the note. Debt discounts under these arrangements are amortized to interest expense using the interest method over the earlier of the term of the related debt or their earliest date of

redemption.

Income Taxes - The Company accounts for income taxes using the liability method whereby deferred tax asset and liability account balances are determined based on differences between the financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. The Company provides a valuation allowance, if necessary, to reduce deferred tax assets to their estimated realizable value.

In evaluating the ability to recover its deferred income tax assets, the Company considers all available positive and negative evidence, including its operating results, ongoing tax planning, and forecasts of future taxable income on a jurisdiction-by-jurisdiction basis. In the event the Company determines that it would be able to realize its deferred income tax assets in the future in excess of their net recorded amount, it would make an adjustment to the valuation allowance that would reduce the provision for income taxes. Conversely, in the event that all or part of the net deferred tax assets are determined not to be realizable in the future, an adjustment to the valuation allowance would be charged to earnings in the period such determination is made.

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The Company recognizes the tax benefit from uncertain tax positions in accordance with GAAP, which prescribes a recognition threshold and measurement, attribute for the financial statement recognition and measurement of uncertain tax positions taken or expected to be taken in a company's tax return.

Net Loss Per Common Shareholder - Basic net loss per share is based upon the weighted average number of common shares outstanding. Diluted net loss per share is based on the assumption that all dilutive convertible shares and stock options were converted or exercised. Dilution is computed by applying the treasury stock method. Under this method, options, warrants and restricted stock are assumed to be exercised at the beginning of the period (or at the time of issuance, if later), and as if funds obtained thereby were used to purchase common stock at the average market price during the period.

Recently Issued Accounting Pronouncements

In July 2013, the Financial Accounting Standards Board, or the FASB, issued Accounting Standards Update, or ASU, No. 2013-11, "Presentation of an Unrecognized Tax Benefit When a Net Operating Loss Carryforward, a Similar Tax Loss, or a Tax Credit Carryforward Exists", or ASU No. 2013-11, which concludes that, under certain circumstances, unrecognized tax benefits should be presented in the financial statements as a reduction to a deferred tax asset for a net operating loss carryforward, a similar tax loss, or a tax credit carryforward. ASU No. 2013-11 will be effective for us beginning January 1, 2014. We do not anticipate that the adoption of this standard will have a material impact on our financial position or results of operations.

Executive Compensation

Unpaid bonuses to Gerald E. Commissiong, President and Chief Executive Officer and Dr. John W. Commissiong, Chief Scientific, Officer, were improperly reflected as prepaid expenses and other current assets in form 10-K filed with the Security and Exchange Commission on 4/17/2013, and forms 10-Q filed with the Security and Exchange Commission on 5/12/2013, 8/19/2013 and 11/14/2013. This improper classification was not in conformity with the financial policies of the Company. In the fourth quarter 2013 were paid and thereby eliminating this improper classification. A total bonus of \$443,874 was paid in 2014, \$230,222 for Gerald E. Commissiong, and \$213,763 for Dr. John W. Commissiong

3.

balance sheet details

Prepaid expenses and other current assets:

	Year Ended December 31,	
	2013	2012
Prepaid expenses	\$91,853	\$409,710
Deferred financing costs	109,233	46,909
Other	14,100	64,001
Total	\$215,186	\$520,620

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Accrued liabilities:

	Year Ended December 31,	
	2013	2012
Accrued compensation and related benefits	\$266,407	\$18,746
Series D Convertible Preferred dividend	25,987	—
Total	\$292,394	\$18,746

Related party liabilities:

	Year Ended December 31,	
	2013	2012
Promissory note	\$ 222,083	\$ 222,083
Accrued interest	25,884	21,442
Total	\$ 247,967	\$ 243,525

This promissory note dated March 5, 2008 is due and payable March 5, 2015 and carries a annual interest rate of 2%. The note can be converted at the option of the Company based upon the FMV of common stock as of the date of issuance at the closing price quoted on the exchange on which the Company's common stock is listed. The conversion price as at December is \$0.0798, and would convert to 3,107,356 shares.

4. Fair Value Measurements

Accounting standards have been issued which define fair value, establishes a market-based framework or hierarchy for measuring fair value and expands disclosures about fair value measurements. The standard is applicable whenever another accounting pronouncement requires or permits assets and liabilities to be measured at fair value. The standard does not expand or require any new fair value measures; however its application may change current practice.

Fair value is defined under the standard as the price that would be received to sell an asset or paid to transfer a liability in the principal or most advantageous market in an orderly transaction between market participants on the measurement date. The standard also establishes a three-level hierarchy, which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value:

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Level 1 — inputs to the valuation methodology are quoted prices (unadjusted) for an identical asset or liability in an active market

Level 2 — inputs to the valuation methodology include quoted prices for a similar asset or liability in an active market or model-derived valuations in which all significant inputs are observable for substantially the full term of the asset or liability

Level 3 — inputs to the valuation methodology are unobservable and significant to the fair value measurement of the asset or liability

The Company's financial assets and liabilities that are measured at fair value on a recurring basis as of December 31, 2013 and 2012, by level within the fair value hierarchy, are as follows:

Fair Value Measurements at December 31, 2013

	Level 1	Level 2	Level 3	Total
Warrant liability	\$ —	\$ —	\$—	\$—
Derivative Liability	—	—	5,859,170	5,859,170
Total fair value	\$ —	\$ —	\$5,859,170	\$5,859,170

Fair Value Measurements at December 31, 2012

	Level 1	Level 2	Level 3	Total
Warrant liability	\$ —	\$ —	\$232,988	\$232,988
Derivative Liability	—	—	26,893	26,893
Total fair value	\$ —	\$ —	\$259,881	\$259,881

The following table provides a summary of changes in the fair value of the Company's Level 3 financial liabilities from January 1, 2012 to December 31, 2013:

	Warrant Liability	Derivative Liability	Total
December 31, 2011	283,931	140,706	424,637
Conversion of warrants to common stock	(2,031)	—	(2,031)
Issuance of convertible notes	—	4,044,349	4,044,349
Change in fair value	(48,912)	(4,158,162)	(4,207,074)
December 31, 2012	232,988	26,893	259,881
Issuance of convertible notes	—	8,582,295	8,582,295
Reclass to additional paid in capital	—	(2,711,816)	(2,711,816)
Change in fair value	(232,988)	(38,202)	(271,190)
December 31, 2013	—	\$5,859,170	\$5,859,170

As of December 31, 2013 and 2012, the fair value of the warrant liability was \$0 and \$232,988, respectively. The changes in fair value for the years ended December 31, 2013 and 2012 of \$232,988 and \$48,912, respectively, have been recorded in the accompanying statements of operations as a component of other income (expense). The fair value of the warrants at December 31, 2013 and 2012 were determined using the Black-Scholes model with the following assumptions:

	2013	2012
Annualized volatility	331% - 335%	275% - 624%
Contractual life (years)	.04	.5
Expected dividends	0%	0%
Risk-free investment rate	0.62 - 0.91%	0.12 - .014%

Derivative liability

A number of the Company's convertible notes contain embedded derivatives wherein their automatic conversion, which is contingent upon a future equity raise, can accelerate the realization of the expected payout for each note. This feature creates the possibility of a greater than expected return for the note holder and thus a higher than expected liability for the Company. The value of this feature was estimated for each note using the probability expected return method, in which the payout of distinct potential early conversion scenarios was discounted to the present using the expected IRR of the note and compared with the present value of the note if held to maturity. Probabilities were applied to the value of early conversion in each scenario to arrive at a probability-weighted value of the early conversion feature.

For certain convertible note obligations, the Company is required to measure and record a related derivative liability, representing the estimated fair value of any embedded conversion options. As of December 31, 2013 and December 31, 2012, the fair value of the derivative liability was \$5,859,170 and \$26,893, respectively. The changes in fair value for the twelve months ended December 31, 2013 and December 31, 2012 is \$13,000, and \$436,095, have been recorded in the accompanying statements of operations as a component of other income (expense).

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5. Net loss per share

The following table sets forth the computation of the basic and diluted net loss per share attributable to Amaranthus common stockholders for the periods indicated:

	Year Ended December 31,	
	2013	2012
Numerator		
Net Loss	\$(15,131,681)	\$(5,135,618)
Preferred stock dividend	38,402	—
Net loss applicable to common stockholders	\$(15,170,083)	\$(5,135,618)
Denominator		
Weighted average shares outstanding during the period:		
Common stock - basic	450,931,510	140,710,454
Common shares equivalents	—	—
Common stock - diluted	450,931,510	140,710,454
Net loss per share	\$(0.03)	\$(0.04)
Potentially dilutive securities:		
Outstanding time-based common stock options ⁽¹⁾	6,941,000	-(2)
Outstanding time-based preferred stock options ⁽¹⁾	2,288,000	-(2)
Warrants ⁽¹⁾	84,553,000	-(2)
Relating party liabilities	3,107,000	-(2)
Convertible promissory note(s) ⁽¹⁾	6,325,000	-(2)
8% Senior convertible debentures	75,000,000	-(2)
Convertible preferred stock ^{(1) (3)}	753,000	-(2)

(1) The impact of time-based stock options, warrants, the convertible notes and the convertible preferred stock on earnings per share is anti-dilutive in a period of loss from continuing operations.

(2) Total anti dilutive securities in 2012 was approximately 84,000,000.

(3) Includes Series C and D Convertible Preferred Stock.

6. intangible assets

The following table summarizes our intangible assets:

	Year Ended December 31,	
	2013	2012
Intangible assets:		
License – Power 3 Medical	\$430,252	\$484,643
License – Memory Dx (LymPro)	145,940	\$47,500
License – University of Massachusetts	34,902	—
Total intangible assets net	\$611,094	\$532,143

Amortizable intangible assets as of December 31, 2013 and 2012 consist of the following:

December 31, 2013			
	Gross Carrying Amount	Accumulated Amortization	Net Book Value
License costs	681,143	(70,049)	611,094

December 31, 2012			
	Gross Carrying Amount	Accumulated Amortization	Net Book Value
License costs	\$532,143	\$ —	\$532,143

These license costs will be amortized over their patent expire date. As of December 31, 2013, amortization expense for the next five years is expected to be as follows:

2014	\$44,599
2015	44,599
2016	44,721
2017	44,599
2018	44,599
thereafter	387,977
Total	\$611,094

Power 3 Medical License and subsequent asset purchase

The Company acquired a license and the intellectual property rights to 2 diagnostic blood test platforms known as NuroPro and BC-SeraPro from Power3 Medical Products, Inc. in 2012. NuroPro is a neurodegenerative disease diagnostic platform with a lead application in Parkinson's disease. BC SeraPro is an oncology diagnostic platform with a lead application in Breast Cancer. In December of 2012, the Company acquired all of the assets from the bankruptcy estate of Power3 Medical Products, Inc.

Memory Dx (LymPro) License

On December 14, 2012, the Company entered into an exclusive license agreement (the "License Agreement") with Memory Dx, LLC ("MDx") under which MDx granted to the Company an exclusive worldwide license to develop, manufacture, market, sell and import medical devices under MDx's intellectual property pertaining to Alzheimer's disease diagnosis (the "License"). As consideration for the License, the Company issued 2,000,000 shares of its common stock at \$0.0395 per share to MDx in March 2013 and will pay MDx a royalty equal to 9% of the net proceeds of all sales resulting from the License. Further, MDx, with the Company's engagement, is to complete a validation study regarding a blood test for the detection of Alzheimer's disease. To prepare the laboratory for this study, the Company paid MDx \$50,000 in 2013. The Company will also assist MDx in fund raising, and, upon successful completion of the validation study, pay MDx \$1,000,000 in cash or Company stock. The Company may sell, sub-license or assign the License Agreement and has an option to terminate the License Agreement upon 30 days

written notice if MDx is unable to meet its obligations regarding the validation study.

University of Massachusetts License

On December 12, 2013, the Company entered into a licensing arrangement with the University of Massachusetts whereby the Company obtained an exclusive world-wide royalty bearing license to conduct research, develop and commercialize intellectual property related to soluble MANF in Pancreatic Beta-Cell Disorders. The Company paid an upfront fee of \$35,000 upon entering into the agreement. Under the agreement, the Company has certain obligations to use commercially reasonable efforts to develop and commercialize the licensed patents. The agreement provides for specific milestone payments to be made to the university upon the occurrence of certain development related events. The agreement also provides that the Company will pay certain minimum and sales-based royalties to the university once product sales are commenced. Under the agreement, the Company is obligated to reimburse the university for all costs related to maintaining the licensed patents. The Company may terminate the agreement for any reason upon 90 days' written notice.

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7. collaborative agreements

University of Massachusetts

The Company has entered into a series of exclusive license agreements with the University of Massachusetts (the “UMass”) on December 12, 2013 that provide the Company with certain technology and related patent rights and materials associated with Mesencephalic Astrocyte derived Neurotrophic Factor, or MANF-based therapeutics.

Under the terms of the agreements, the Company pays license fees and specified development costs and will be required to pay royalties amounting to 2% of net sales of products originating from the licensed technologies. The agreements will expire at the end of the life of the last issued patent.

The Company incurred license fees and specified development costs under the UMass agreements of \$34,441 for the year ended December 31, 2013, which are included in research and development expense.

8. Convertible Notes Payable

The following table summarizes the Company’s outstanding convertible notes payable obligations:

Issue Date	Maturity Date	Stated Interest Rate	Conversion Terms	Principal Balance Outstanding December 31, 2013	December 31, 2012
11/14/2012	06/03/2013	10.0	% Fixed at \$0.10	\$ 0	\$ 600,000
10/4/2011	9/6/2014	20.0	% \$0.05 subject to adjustments	0	140,000
			Notes payable, current	\$ 0	\$ 740,000

Subsequent to December 31, 2013, the Company issues approximately 93,860,000 shares of common stock to settle the convertible notes payable and accrued interest.

9. 8% Senior convertible debentures

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The following table summarizes the Company's outstanding 8% convertible promissory note obligations:

Issue Date	Maturity Date	Stated Interest Rate	Conversion Terms	Principal Balance Outstanding	
				December 31, 2013	December 31, 2012
10/2/2013	10/2/2014	8.0	% Variable conversion price	\$ 1,788,889	\$ -0
-9/6/2013	9/6/2014	8.0	% Variable conversion price	1,544,443	-0-
	Sub total			3,333,332	-0
	Discount on convertible promissory notes			(2,401,390)	-0-
	Current portion of 8% convertible promissory notes, net			\$ 931,942	\$ -0

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Subsequent to December 31, 2013 all the 8% senior convertible debentures converted to capital stock of the Company.

The Debenture agreement provides that the Company may be obligated to pay partial liquidated damages to certain Investors in the event that the company is unable to deliver Common Stock pursuant to the terms of the agreement upon an elected conversion. The amount of liquidated damages is determined based on a fixed dollar amount per trading day during which the conversion shares remain undelivered.

The Company entered into a registration rights agreement with the Investors pursuant to which the Company filed a registration statement with the Securities and Exchange Commission. The registration statement went effective February 4, 2014.

10. Convertible Promissory Notes

The following table summarizes the Company's outstanding convertible promissory note obligations:

Issue Date	Maturity Date	Stated Interest Rate	Conversion Terms	Principal Balance Outstanding	
				December 31, 2013	December 31, 2012
6/5/2013	12/2/2013	6.0	% Fixed at \$0.02	20,000	-0-
11/4/2012	5/3/2013	6.0	% Fixed at \$0.01	10,173	10,173
8/23/2012	2/19/2013	6.0	% Fixed at \$0.015	50,000	50,000
11/2012	On Demand	None	Variable conversion price	720	720
6/6/2011	6/6/2013	5.0	% Fixed at \$0.04	10,000	10,000
4/11/2011	4/11/2013	5.0	% Fixed at \$0.04	25,000	25,000
5/1/2011	5/1/2013	5.0	% Fixed at \$0.10	4,250	4,250
4/1/2011	4/1/2013	5.0	% Variable conversion price	4,250	4,250
09/21/2012-09/01/2013	03/20/2013-06/05/2013	6.0	% Fixed prices ranging from \$0.0051-\$0.0545		154,900
12/28/2010	On Demand	5.0	% Fixed at \$0.0030		13,000
12/28/2010-06/09/2011	12/6/2011	5.0	% Variable conversion price		375,000
8/21/2012	2/21/2013	None	Variable conversion price		6,066
12/13/2010	12/13/2012	5.0	% Variable conversion price		100,000
6/6/2012	12/3/2012	6.0	% Fixed at \$0.03		13,000
9/26/2011	3/24/2012	6.0	% Fixed at \$0.10		3,000
4/27/2011	4/27/2013	5.0	% Variable conversion price	-0-	50,000
	Sub total			124,393	819,359
	Discount on convertible promissory notes			-0-	(50,467)

Current portion of convertible promissory notes, net	\$ 124,393	\$ 768,892
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For notes that converted to common stock during the year ended December 31, 2013, the Company issued approximately 98,456,000 shares of common stock and extinguished approximately \$3,463,162 of principal obligations as a result of those conversions.

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Convertible notes in default

At December 31, 2013, the Company was in technical default of certain convertible notes with an aggregate principal balance outstanding of approximately \$124,000 that were due prior to December 31, 2013

If the registration statement at any time ceases to be effective or if the Investors are not permitted to utilize the prospectus related to the registration statement to resell securities intended to be registered therein for more than 10 consecutive calendar days or for more than an aggregate of 15 calendar days during any twelve month period, then the Company is obligated to pay the affected Investors an amount in cash, as partial liquidated damages, equal to 2% multiplied by the aggregate subscription amount paid by the Investors each month until such condition is cured, plus interest if any such liquidated damages are paid beyond a specified payment date as provided for in the agreement.

2013 Restructuring of Certain Convertible Debentures and Related Warrants

On February 7th, 2013, the Company completed a series of transactions related to the restructuring of certain convertible debentures and related warrants that were in default. As a result, the Company executed two separate amended and restated Convertible Promissory Notes in the amounts of \$375,000 and \$187,500 (the "New Notes"), respectively, payable to Dominion Capital, LLC. The Company had defaulted on Promissory Notes issued in 2011 to certain individual investors in the total aggregate amount of \$375,000 (the "Old Notes"), and related cashless warrants in the amount of \$500,000. Dominion capital paid \$562,500 to acquire the Old Notes, and as part of the transaction all of the related warrants have been retired, inclusive of a \$37,500 payment from the Company to certain warrant holders. The Old Notes and Related warrants had a conversion feature equal to a 66.6% floorless discount to a 'Next Equity Financing', defined as a financing where equity, or debt that was convertible into common stock, with a fixed price conversion feature. As a result of the 30 January financing previously announced, the Old Notes and Warrants, inclusive of interest, would have been convertible into approximately \$900,000 in common shares priced at \$0.0333/share, which would have equated to 27,000,000 common shares.

As a result, of the transactions listed above, \$375,000 in notes became immediately convertible at a price of \$0.015/share, equal to 25,000,000 common shares. The \$187,500 is also priced at \$0.015/share, however the note was not convertible for 6 months and the Company retains an option to repurchase this note at any time until maturity. The \$187,500 note was converted into 12,500,000 common shares in July 2013.

Concurrently, the Company retired a series of convertible notes with unfavorable financing terms that were issued between June 30, 2012 and November 1, 2012.

As a result of these transactions, the Company eliminated the costly potential default and reset provisions associated with the Old Notes and Warrants that the Company believes were a potential impediment to future growth and more favorable future financing alternatives. With the retirement of the Old Notes and repurchase by the Company of the Warrants, the Company is no longer in default of any convertible notes or warrants, and has eliminated the risk of further dilutive potential of resets and default provisions contained within those retired instruments. The company believes that this has streamlined and enhanced its capital structure placing the Company in a better position to move forward with the execution of its scientific advancement plans.

January 2013 Convertible Promissory Note Amendment

On January 30, 2013, the Company executed an amendment to a Convertible Promissory Note payable to Dominion Capital, LLC or its registered assigns (the “Dominion Note”), dated November 14, 2012, providing for an increase in the purchase price for such note from \$600,000 to \$2,000,000, to be disbursed in tranches through April 26, 2013. The Dominion Note bears interest at the rate of ten percent (10%) per annum until paid in full and is convertible into shares of the Company’s common stock, subject to certain restrictions, at a price of \$0.10 per share. The Dominion Note has been amended to provide for an extended amortization schedule with a final maturity date of 28 October 2013. The Company has the option to pay the Dominion Note in cash or stock at its discretion, subject to certain conditions. The Company intends to apply the proceeds from the amended Dominion Note for working capital purposes. Dominion is not able to begin to convert the note until May 14, 2013. The Company received all \$600,000 from the initial agreement in 2012, and received the first tranche of funding of \$250,000 on January 30th, 2013. The extended amortization schedule provides for payments of \$200,000 to \$250,000 every 2 weeks until the end of April 2013. The amended notes were converted in fiscal 2013.

11. commitments and contingencies

Lease Arrangements — The Company leases its main office facility and laboratory space in San Francisco, CA under a one-year lease agreement with QB3 Incubator Partners, LP. The lease agreement was entered into in October 2013 and provides for rental payments of \$6,700 per month.

Rent expense for the years ended December 31, 2013 and 2012 was \$29,511 and \$33,596, respectively.

Contingencies — From time to time, the Company may become involved in litigation. On January 6, 2012, the Company was served a summons regarding the filing of a lawsuit (Complaint for Breach of Contract, Specific Performance and Common Counts) against the Company by a former consultant to the Company, Peter Freeman v. Amaranthus Biosciences, Inc. In August 2012, the Company reached a settlement with Mr. Freeman whereby he received payment of \$44,000 in monthly installments of \$5,000, and the settlement amounts were fully paid in the year ended December 31, 2012.

Amarantus is continuing to review the Company's legal options with respect to the material misrepresentations made by the officers of Power3 Medical and the Company's rights in the IP.

The Company is in non-payment of certain convertible notes that were due prior to December 31, 2013, and is also late with regard to making payments to various trade account vendors for goods and services received. Presently the Company is not aware of any accounts that have been turned over to collection agencies or that might result in a lawsuit with the Company.

The Company incurred various obligations related to the original acquisition of its intellectual property around the time the Company was founded. These transactions are described more fully in Note 16, including a reference to contingent obligations reflected in the financial statements.

12. PREFERRED STOCK

Series A Convertible Preferred Stock

In May 2012, the Company designated a class of preferred stock as Series A Convertible Preferred Stock. The Series A shares have no entitlement to dividends and have no voting rights. In any event of dissolution, liquidation or winding up of the Company, the Series A shares are entitled to receive a stated value of \$1.00 per share. All distributions made to holders of the Series A shares and to holders of other stock of the Company upon liquidation shall be made on a *pari passu* basis with distributions made to holders of the Company's common stock. The series A shares are convertible into the Company's common stock at a stated conversion price that is equal to the lesser of 1) 110% of the closing common stock price on the date of conversion or 2) 80% of the lowest closing common stock price occurring during a 30 trading day period prior to notice of conversion. During 2013 the registered holder of the Company's Series A convertible preferred stock converted all 250,000 shares into 8,094,117 shares of the Company's common stock. The Series A Convertible Preferred Stock was converted in January 2013 as part of a services settlement with a vendor.

Series B Preferred Stock

On April 2, 2013 the Company filed a Certificate of Designation with the State of Nevada formally creating a series of Series B Convertible Preferred Stock. The Series B Convertible Preferred Stock has no anti-dilution provisions, can only be issued to officers, directors and advisors of the Company, and cannot be converted into common stock, transferred, sold or disposed of in any manner for 24 months.

Series C Convertible Preferred Stock

On April 1, 2013, the Company filed a Certificate of Designation with the State of Nevada creating a series of Series C Convertible Preferred Stock. The Series C Convertible Preferred Stock has no anti-dilution provisions, can only be issued to officers and directors of the Company, is convertible into a cumulative total of 750,000 common shares and is automatically convertible into common stock upon listing of the Company's common stock to a national stock exchange. The holders of Series C shares are entitled to 300 common stock equivalent votes per share on all corporate matters except those that by law only require a single series vote.

Series D Convertible Preferred Stock

On August 19, 2013, the Company entered into a securities purchase agreement with an institutional investor (the "Investor") pursuant to which the Company issued shares of newly designated Series D 8% Convertible Preferred Stock ("Series D Preferred Stock") to the Investor in exchange for the Investor agreeing to paying off certain accounts payables of the Company, up to an aggregate approximate amount of \$1,250,000. In addition, the Company granted to the Investor the right to participate in future financings of the Company until 12 months from the date of the last closing.

On August 19, 2013, the Company filed a Certificate of Designation designating 1,300 of our preferred stock as Series D Preferred Stock. Each share of Series D Preferred Stock has a stated value of \$1,000 and pays on a quarterly basis 8% cumulative dividends per annum. Dividends are payable by the Company in cash or at the Company's option, in shares of common stock. The Series D Preferred Stock shall have no voting rights except in certain circumstances which would adversely affect the Series D Preferred Stockholders. Each share of Series D Preferred Stock is convertible at any time into shares of common stock by dividing the stated value per share by the then effective conversion price. The conversion price for the Series D Preferred Stock shall equal \$0.03 per share, subject to adjustment; provided, however, in the event that during any period that the Series D Preferred Stock is outstanding, a holder delivers a conversion notice within 5 trading days following a period that the average of 5 consecutive Volume Weighted Average Prices (VWAPs) is less than \$0.02, the conversion price shall be thereafter reduced, and only reduced, to equal the lesser of the then conversion price and 75% of the average of the lowest 5 consecutive VWAPs prior to the delivery of such conversion notice. The Series D Preferred Stock is also subject to redemption by the Series D Shareholders upon certain triggering events. The redemption amount upon any triggering event is equal to the greater of 1) 130% of the stated value or 2) the stated value divided by the then conversion price multiplied by the VMAP on the trading day immediately preceding the triggering event, plus any accrued and unpaid dividends. The redemption payment may, at the option of the holder, be in cash or shares. Redemption triggering events may include certain events such as 1) change of control, bankruptcy, junior security redemptions, common stock delisting, or other adverse events as described under the agreement.

Stock Warrants

Company issued 83,333,251 Warrants in 2013 in connection with the Debenture and Warrant transaction. The Warrants are exercisable for a term of three years from the date of issuance at an exercise price of \$0.06 per share. The Warrants are exercisable on a cashless basis if at any time after the six months anniversary there is no effective registration statement or current prospectus available for the resale of the shares underlying the Warrants. The Company may call the warrants at an exercise price of \$.001 per share if certain conditions as described in the Warrant are met.

The following table summarizes the Company's warrant activity for the year ended December 31, 2013.

	Number of Warrants	Weighted Average Exercise Price
Outstanding as of December 31, 2011	1,392,251	\$ 0.07
Issued in connection with convertible debt offerings	11,364,773	0.07
Exercised	(146,694)	0.17
Expired	(25,501)	0.01
Outstanding as of December 31, 2012	12,584,829	0.04
Issued in connection with convertible debt offerings	83,333,250	0.06
Exercised	-	0.00
Cancelled	(11,364,773)	0.04
Expired	-	0.00
Outstanding as of December 31, 2013	84,553,306	0.06

Warrant Exchange

On March 7th, the Company accepted elections to exercise certain warrants in the aggregate amount of 60,000,000 shares of common stock for gross proceeds of \$3,600,000. The total proceeds from the transaction were received by the Company in the first quarter of 2014. Pursuant to the offer to exercise dated February 13, 2014 as supplemented on March 6, 2014, the holders of outstanding warrants to purchase shares of common stock of the Company at a price of \$0.06 (the "Original Warrants") were offered the opportunity to exercise their Original Warrants and receive warrants (the "New Warrants") to purchase three (3) shares of common stock of the Company for every four (4) Original Warrants exercised. The New Warrants are exercisable at a price of \$0.12 for a term of five (5) years. The New Warrants are callable by the Company if the Volume Weighted Average Price (VWAP) of the Company's common stock for each of 20 consecutive trading days exceeds \$0.18 and certain equity conditions are met. . The Company

may also call the New Warrants if the closing price of the Company's common stock exceeds \$0.18 on the date that is the earlier of the receipt by the Company of an approval letter for listing of the Company's common stock on an exchange or listing of the common stock on an exchange. The holders of the New Warrants will also have piggy back – registration rights. Upon the closing of the offer to exercise the Company issued New Warrants to purchase 45,000,000 shares of common stock of the Company.

13.COMMON STOCK

The Company is authorized to issue 1,000,000,000 shares of common stock, \$0.001 par value. The holders of common stock: (i) have equal rights to dividends from funds legally available therefore, ratably when as and if declared by the Company's Board of Directors; (ii) are entitled to share ratably in all assets of the Company available for distribution to holders of common stock upon liquidation, dissolution, or winding up of the affairs of the Company; (iii) do not have preemptive, subscription or conversion rights and there are no redemption or sinking fund provisions applicable thereto; (iv) are entitled to one non-cumulative vote per share of common stock, on all matters which shareholders may vote on at all meetings of shareholders; and (v) the holders of common stock have no conversion, preemptive or other subscription rights. There is no cumulative voting for the election of directors. Each holder of our common stock is entitled to one vote for each share of our common stock held on all matters submitted to a vote of stockholders. As of December 31, 2013, our Board of Directors had declared no dividends payable to holders of our common stock.

Common Stock Registration

On October 3, 2013, the Company filed with the U.S. Securities and Exchange Commission a Form S-1 Registration Statement under the Securities Act of 1933, subsequently amended on December 2, 2013, December 31, 2013 and on January 27, 2014. The purpose of the registration statement was to register 173,333,160 share of common stock for resale by certain investors that are issuable upon conversion of 8% senior convertible debentures and as interest on such debentures and warrants issued by the Company pursuant to a securities purchase agreement entered into between the Company and the certain selling shareholders.

BBSE Delisting

On January 17, 2013, the Board of Directors of Amaranthus BioScience, Inc. adopted a unanimous written resolution authorizing the Company's officers, agents, and counsel to take any and all action reasonably necessary to cause the immediate cessation of trading and delisting of Amaranthus common stock from the Berlin-Bremen Stock Exchange (the "BBSE"), or from any unofficially regulated markets controlled by the BBSE, including the commencement of legal proceedings in the United States or Germany against the BBSE or any broker or other unauthorized person making a market in the Company's stock in Germany through the BBSE or otherwise. The Company's common stock was listed on the BBSE without the Company's prior knowledge, consent, or authorization. The Company did not authorize or direct any BBSE broker to act as market maker for the Company's common stock, and believes such listing is part of an organized effort to circumvent U.S. securities laws, including the restrictions against "naked short selling." The Company's common stock was delisted from the BBSE on March 19, 2013. The Company believes that de-listing from the BBSE has helped to facilitate orderly trading of the Company's common stock.

DTCC Chill

On April 18, 2013 the Company became aware of a letter dated April 4, 2013 from the Depository Trust Company ("DTC") indicating that on March 22, 2013, The Depository Trust Company ("DTC") imposed a restriction on physical deposit and Deposit/Withdrawal At Custodian ("DWAC") electronic deposit transactions (the "Deposit Chill") on CUSIP 02300T 109 (the "Issue"), issued by Amaranthus Bioscience, Inc. (the "Issuer"). DTC imposed the Deposit Chill in order to prevent additional deposits of the Issue for depository and book-entry transfer services for the reasons set forth below. The letter set forth the concerns of DTC and the procedure the Company must follow in order to object to the imposition of the Deposit Chill. DTC detected various unusually large deposits of shares of predecessor CUSIP 02300Q 105 (the "Predecessor Issue") during the period from November 21, 2011 to February 1, 2013. More particularly, 234,841,928 shares of the Predecessor Issue and the Issue, representing a substantial percentage of the outstanding float, were deposited at DTC during this period. In order for DTC to make a determination as to whether to lift the Deposit Chill, DTC required that the Company submit a written response (the "Response") to this notice. The

Response must include a legal opinion (“Legal Opinion”), addressed to DTC, in support and confirmation that the Issue satisfies DTC eligibility requirements.

The Company provided the requested Response to DTC in July of 2013. On July 30, 2013, the Company received notice that The Depository Trust Company has determined to lift the deposit chill (“DTCC Chill”) on the Company’s common stock and has resumed accepting deposits for depository and book-entry transfer services.

14. Stock option plan

2008 Stock Plan

The Company’s Board of Directors approved the 2008 Stock Plan (the “Plan”). Under the Plan, the Company may grant up to 28,242,127 shares of incentive stock options, nonqualified stock options, or stock awards to eligible persons, including employees, nonemployees, members of the Board of Directors, consultants, and other independent advisors who provide services to the Company. In general, options are granted with an exercise price equal to the fair value of the underlying common stock on the date of the grant. Options granted typically have a contractual life of 10 years and vest over periods ranging from being fully vested as of the grant date to four years.

The following table is a summary of activity under the Plan:

	Common stock options outstanding	Weighted Average Exercise Price	Outstanding Options Common Weighted Average Remaining Contractual Term
Balance – December 31, 2011	9,206,247	0.02	6.4
Options granted (weighted-average fair value of \$0. Employee	—	—	—
Non-Employee	—	—	—
Options cancelled	—	—	—
Options Exercised	(7,377,221)	0.02	—
Balance – December 31, 2012	1,829,026	0.02	6.4
Options granted (weighted-average fair value of \$0.52 Employee	776,924	0.05	9.2
Non-Employee	5,746,155	0.05	9.2
Options cancelled	(1,210,817)	—	—
Options Exercised	—	—	—
Balance – December 31, 2013	6,941,288	0.05	9.0
Options vested December 31, 2013	6,891,288		

The amount of awards available to grant under the Plan is 623,618 as of December 31, 2013.

Title

2012 Preferred Stock Plan

In July 2012, our Board of Directors adopted a new stock plan, the Management, Employee, Advisor and Director Preferred Stock Option Plan – 2012 Series B Convertible Preferred Stock Plan (“Preferred Stock Plan”). The purposes of the Preferred Stock Plan are to attract and retain the best available personnel for positions of substantial responsibility, to provide additional incentive to Management, Employees, Advisors and Directors and to promote the success of our

business. Certain current and former Management, Employees, Advisors and Directors were awarded a total of 1,248,000 options to purchase Series B Preferred shares on July 15, 2012, and an additional 1,200,000 options on November 4, 2012. These options currently vest over four years and cannot be converted into common shares or sold for two years from the date of the Designation of the Series B Preferred shares. Each share of Series B Preferred stock converts into fifty shares of common stock. The following table is a summary of activity under the Preferred Stock Plan:

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	Preferred Stock Options Outstanding	Weighted Average Exercise Price	Outstanding Preferred Options Weighted Average Remaining Contractual Term
Balance – December 31, 2011	—	—	—
Preferred options granted (weighted-average fair value of \$0.0237)			
Employee	2,287,500	0.4742	9.5
Non-Employee	160,500	0.225	9.8
Balance – December 31, 2012	2,448,000	0.4578	9.6
Preferred options cancelled	(160,500)	0.225	9.8
Balance – December 31, 2013	2,287,500	0.4742	8.5
Preferred options vested at December 31, 2012	1,318,359		

The amount of awards available to grant under the Plan is 712,500 as of December 31, 2013.

Stock-based compensation expense for all plans for the years ended December 31, and 2013 and 2012, is classified in the statements of operations as follows:

	Year ended December 31, 2013	Year ended December 31, 2012
Research and development	\$ 337,494	\$ 101,566
General and administrative	406,195	282,038
Total	\$ 743,689	\$ 383,604

At December 31, 2013, there was a total of \$443,849 of unrecognized compensation cost — net of estimated forfeitures, related to non-vested stock option awards, which is expected to be recognized over a weighted-average period of approximately 2.0 years.

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The fair value of the Company's stock-based awards during the twelve months ended December 31, 2013 and 2012 were estimated using the following assumptions:

	Year Ended December 31, 2013		Year Ended December 31, 2012	
Weighted-average volatility	90.0	%	108.0	%
Weighted-average expected term	5		5	
Expected dividends	0	%	0	%
Risk-free investment rate	2	%	0.5	%
Expected forfeiture rate	0	%	0	%

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15.

INCOME TAXES

There is no provision for income taxes because we have incurred operating losses since inception and applied a full valuation allowance against all deferred tax assets. The reported amount of income tax expense attributable to operations for the year differs from the amount that would result from applying domestic federal statutory tax rates to loss before income taxes from operations as summarized below:

	Year ended December 31, 2013	Year ended December 31, 2012
Income (Loss) before income taxes		
United States	\$(15,130,681)	\$(5,135,618)
Foreign	—	—
Total Income (Loss) before income taxes	\$(15,130,681)	\$(5,135,618)
	Year ended December 31, 2013	Year ended December 31, 2012
Federal tax expense (benefit) at statutory rate	\$(5,144,773)	\$(1,746,110)
State tax expense (benefit) net of federal tax effect	(538,715)	(298,348)
R&D Credit	(46,000)	(19,994)
Non-deductible expenses	2,191,507	88,368
Change in Valuation Allowance	3,537,981	1,976,084
Other income	—	—
Total tax expense	\$—	\$—

The significant components of deferred tax assets are as follows:

	Year ended December 31, 2013	Year ended December 31, 2012
Deferred tax assets:		
Net operating loss carry-forward	\$7,317,778	\$4,162,890
Tax credit carry-forward	203,889	125,954
Accrued liabilities	722,863	419,704
Capitalized start-up costs	15,194	15,194
Depreciation	1,351	1,351
Gross Deferred Tax Assets	8,263,075	4,725,093
Valuation Allowance	(8,263,075)	(4,725,093)

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Net deferred tax assets \$— \$—

	December		December	
	31, 2013		31, 2012	
Federal tax expense (benefit) at statutory rate	34.0	%	34.0	%
State tax expense (benefit) net of federal tax effect	3.6	%	5.8	%
R&D Credit	0.3	%	0.4	%
Non-deductible expenses	-14.5	%	-1.7	%
Change in Valuation Allowance	-23.4	%	-38.5	%
 Total tax expense	 —	 %	 —	 %

The Company's accounting for deferred taxes involves the evaluation of a number of factors concerning the realizability of the Company's net deferred tax assets. The Company primarily considered such factors as the Company's history of operating losses, the nature of the Company's deferred tax assets and the timing, likelihood and amount, if any, of future taxable income during the periods in which those temporary differences and carryforwards become deductible. At present, the Company does not believe that it is more likely than not that the deferred tax assets will be realized; accordingly, a full valuation allowance has been established and no deferred tax asset is shown in the accompanying balance sheets. The valuation allowance increased by approximately \$3,537,982 and \$1,976,084 during the years ended December 31, 2013 and December 31, 2012, respectively.

As of December 31, 2013, the Company had net federal and state net operating loss carry-forwards of approximately \$18,374,939 and \$18,378,914, respectively. These net operating loss carry forwards will begin to expire, if not utilized, beginning in 2028 for both federal and state income tax purposes. The Company also has federal and state research and development credit carry-forwards of approximately \$133,716 and \$140,649, respectively. The federal credits will expire if not utilized beginning in 2029. The California credits do not expire.

The Tax Reform Act of 1986 and similar California legislation impose substantial restrictions on the use of net operating losses and tax credits in the event of an ownership change of a corporation. Accordingly, the Company's ability to use net operating losses and credit carry forwards may be significantly limited in the future as a result of such an ownership change.

On January 1, 2009, the Company adopted a newly issued standard of accounting for uncertain tax positions. This standard prescribes a comprehensive model for the recognition, measurement, presentation and disclosure in financial statements of any uncertain tax positions that have been taken or expected to be taken on a tax return. The cumulative effect of adopting the new standard resulted in no adjustment to retained earnings as of January 1, 2009. No liability related to uncertain tax positions is recorded on the financial statements. It is the Company's policy to include penalties and interest expense related to income taxes as a component of tax expense, as necessary.

Beginning balance January 1, 2011	\$	12,391
Increase/(decrease) of unrecognized tax benefits taken in prior years		—
Increase/(decrease) of unrecognized tax benefits related to current year		4,558
Increase/(decrease) of unrecognized tax benefits related to settlements		—
Reductions to unrecognized tax benefits related lapsing statute of limitations		—
Ending balance at December 31, 2012	\$	16,949
Increase/(decrease) of unrecognized tax benefits taken in prior years		
Increase/(decrease) of unrecognized tax benefits related to current year		10,487
Increase/(decrease) of unrecognized tax benefits related to settlements		—
Reductions to unrecognized tax benefits related lapsing statute of limitations		—
Ending balance at December 31, 2013	\$	27,436

The total amount of unrecognized tax benefits that if recognized, would affect the effective tax rate is \$0.

The Company has not incurred any interest or penalties as of December 31, 2013. The Company does not anticipate any significant change within 12 months of this reporting date of its uncertain tax positions. The Company is subject to taxation in the US and California. There are no ongoing examinations by taxing authorities at this time.

The Company's tax years 2008 through 2013 will remain open for examination by the federal and state authorities for 3 and 4 years, respectively, from the date of utilization of any net operating loss credits.

16.

Related-Party Transactions

Acquisition of MANF and associated obligations

The Company was co-founded in 2008 by Mr. Gerald Commissiong and Dr. John Commissiong under the original name of CNS Protein Therapeutics, Inc. ("CNS"), and changed its name to Amaranthus Bioscience, Inc. in 2010, and now Amaranthus Bioscience Holdings, Inc. Dr. Commissiong is currently the Chief Scientific Officer, a member of the Board of Directors (appointed in March 2011) and majority shareholder of the Company. Mr. Gerald Commissiong is currently the Chief Executive Officer, a member of the Board of Directors, and a significant shareholder of the Company. Dr. Commissiong also founded Neurotrophics, Inc., a Canadian company, in 2003. In 2007, Neurotrophics established an agreement with EMS Development Group to acquire the intellectual property rights to a protein compound, mesencephalic astrocyte-derived neurotrophic factor ("MANF"), from Prescient Neuropharma Co. MANF was discovered by Dr. Commissiong while working for Prescient in 2002, as a drug candidate with promising therapeutic properties for treatment of syndromes such Parkinson's Disease.

EMS received \$59,000 in 2007 in funding from Neurotrophics to purchase the MANF intellectual property rights. Prior to this payment, Neurotrophics received a total of \$100,000 in investments from certain outside parties. The same investors provided \$100,000 in funding to CNS in 2008, and CNS renegotiated and assumed the \$100,000 convertible note investment made into Neurotrophics. The investors directed Neurotrophics and EMS to assign the MANF intellectual property rights to CNS and CNS agreed to assume certain other liabilities related to the technology transfer. CNS will compensate these creditors on a future date mutually agreeable between the parties. In addition, CNS agreed to compensate EMS for its assistance in acquiring the rights to MANF by making installment payments in an aggregate amount of \$95,000.

The technology transfer transaction created a contingent liability for the Company. Legal counsel to the Company has advised that transfers of assets out of the usual course of business, referred to under applicable Canadian law as "bulk sales", must comply with certain rules in order to avoid a potential voiding of the sale or transfer, making the purchaser liable to unpaid trade creditors, or creating an encumbrance on the assets transferred or sold. The transfer of the MANF rights by Neurotrophics to CNS may impose such obligations on CNS, as a purchaser. Counsel further advised that upon payment in full of all of the Neurotrophics debts outstanding as of March 5, 2008, no action can be successfully maintained to void or set aside the transfer of the MANF rights to CNS, and thus to the Company.

To remedy this contingent liability, CNS agreed to compensate Neurotrophics to repay its creditors on a future date mutually agreeable between the parties, and agreed to assume debts owed to John Commissiong and Gerald Commissiong by Neurotrophics.

The Company has recorded a total of \$0 and \$0 as of December 31, 2013 and 2012, respectively in obligations reflecting this liability in its financial statements. The Company recorded the assumption of the Neurotrophics debts as a distribution in 2008.

Royalty Agreement - Founders

In October 2010, the Company entered into an agreement with the founders, Gerald Commissiong and John Commissiong, where they will receive a 2.5% (1.25% each for Gerald Commissiong and John Commissiong) Royalty from the gross commercial revenue of patents derived from the Company's proprietary PhenoGuard platform technology, including patents associated with the MANF Protein and related Gene." To date no payments have been made.

Former Chairman

The Company obtained the services of its former Chairman Martin D. Cleary through a consulting agreement. During the years ended December 31, 2013, 2012, and the period from January 14, 2008 (date of inception) to December 31, 2013, consulting services of \$0, \$0, and \$479,166, respectively are included in the statement of operations. This agreement also includes a change of control clause whereby the Company shall pay Mr. Cleary a bonus of 5% of the gross proceeds to the Company resulting from the change of control. Upon his election and in his sole discretion, and in lieu of the change of control bonus, the Company shall issue to him shares of the Company's common stock equal to 2.5% of the Company's fully diluted capitalization as of the date of termination of the agreement. Mr. Cleary resigned from the Company in July, 2012.

Related Party Capital Transactions

In March 2012, a former and an existing Board of Director member converted a Convertible Promissory Note in the amount of \$21,000, each plus accrued interest. This resulted in the issuance of 217,280 shares of Common Stock to

each party. In addition, in March 2012 an existing Board of Director member converted a Convertible Promissory Note in the amount of \$30,000. This resulted in the issuance of 608,300 shares of Common Stock. The same Board member also holds \$60,172 of Convertible Promissory Note with the company as of December 31, 2013. \$100,000 of this Convertible Promissory Note was converted in January 2013, resulting in the issuance of 2,765,625 shares of Common Stock. The same Board member also holds \$5,556 8% Senior convertible debentures.

Related Party Debt transactions

In October 2013, the Company's Chief Executive Officer, Gerald Commissiong, its Chief Scientific Officer, John Commissiong and one of the Company's Directors Robert Harris invested \$5,000 each or an aggregate of \$15,000 in the Debenture and Warrant Transaction (see Note 9) and was each issued a Denture in the principal aggregate amount of \$5,556 and a warrant to purchase 138,889 shares. The shares underlying the Debentures and Warrants purchased by Messrs. Gerald Commissiong, John Commissiong and Robert Harris were not included in the related registration statement.

17. SUBSEQUENT EVENTS

The Company evaluated subsequent events through the date that its financial statements were available for issuance on April 21, 2014.

Eltoprazine In-License Agreement

Effective January 14, 2014, the “Company entered into a License Agreement (the “License Agreement”) with PGI Drug Discovery, LLC (“PGI”), pursuant to which the Company was granted an exclusive license (with a right to sublicense) to utilize certain Licensed Compounds and Licensed Products (as each is defined in the License Agreement) of PGI, which includes certain intellectual property covering the use of Eltoprazine and certain of its related compounds in all therapeutic indications (“Eltoprazine”), as further described in the License Agreement).

Pursuant to the terms of the License Agreement, the Company has agreed to: (i) pay PGI \$100,000 in cash for the License within 20 days of the execution of the License Agreement, (ii) pay PGI up to an aggregate of \$4 million in development milestones through NDA submission, (iii) pay a research support payment to PGI as partial reimbursement for costs incurred for earlier research and management of CIAS, ADHD and levodopa induced dyskinesia (LID) clinical trials totaling up to \$650,000 to be paid in a mixture of cash and stock, and (iv) reimburse PGI for the Eltoprazine clinical supply inventory up to \$500,000 payable upon the earlier of the initiation of a Phase IIb clinical study or 6 months after the date of the License Agreement. As further consideration for the License Agreement, the Company shall pay a single digit royalty to PGI of the annual worldwide aggregate net sales by the Company.

Simultaneous with the execution of the License Agreement, the Company and PGI entered into a Services Agreement pursuant to which PGI will provide certain services to the Company related to PGI’s proprietary analytical systems as will be set forth in certain study plans. The Company agreed to a payment commitment of \$450,000 at a minimum annual rate of \$150,000 for each of three years. The Services Agreement is for a term of the later of 3 years or the completion of any study plan accepted by the parties under the Services Agreement.

As partial consideration of the research support payment by the Company to PGI, the Company entered into a Securities Purchase Agreement with PGI, pursuant to which PGI subscribed for 4,000,000 shares of the Company’s common stock. In connection with the 4,000,000 shares, the Company granted PGI certain piggy-back registration rights.

MANF In-License Option Agreement

On February 28, 2014, the “Company entered into an Option Agreement (the “Agreement”) with the University of Massachusetts (“UMass”) pursuant to which the Company was granted an option to obtain an exclusive license (with the right to sublicense) in the patent applications to be filed based upon UMA 14-006 titled “MANF as a Therapeutic Agent for the production of Mammalian Sensory Cells”. The term of the option is 18 months, which may be extended

by the Company for an additional six months upon demonstration to UMass of continued progress evaluating the business opportunity with respect to the patent rights and payment of a fee to the University. In consideration for the grant of the option, the Company paid an option fee of \$1,000 and shall pay a retainer fee of \$15,000 to cover initial patent expenses to be incurred in connection with obtaining the patent rights.

Common Stock Purchase Agreement

On March 7, 2014, the “Company signed a \$20 million purchase agreement with Lincoln Park Capital Fund, LLC (“LPC”), an Illinois limited liability company. Upon signing the purchase agreement LPC agreed to purchase 4,000,000 shares of our common stock for \$400,000 as an initial purchase under the agreement. We also entered into a registration rights agreement with LPC whereby we agreed to file a registration statement related to the transaction with the SEC covering the shares that may be issued to LPC under the purchase agreement within ten days after the date the Company files with the SEC its annual report on Form 10-K for the fiscal year ended December 31, 2013. After the SEC has declared effective the registration statement related to the transaction, we have the right, in our sole discretion, over a 30-month period to sell up to an additional \$19.6 million of our common stock to LPC in amounts up to \$500,000 per sale, depending on certain conditions as set forth in the purchase agreement. There are no upper limits to the price LPC may pay to purchase our common stock and the purchase price of shares of Common Stock sold pursuant to the Purchase Agreement will be based on prevailing market prices of our Common Stock at the time of sales without any fixed discount, and the Company will control the timing and amount of any sales of Common Stock to LPC. In addition, the Company may direct LPC to purchase additional amounts as accelerated purchases if on the date of a regular purchase the closing sale price of the Common Stock is not below the threshold price as set forth in the Purchase Agreement. LPC shall not have the right or the obligation to purchase any shares of our common stock on any business day that the price of our common stock is below the floor price as set forth in the Purchase Agreement.

The Purchase Agreement contains customary representations, warranties, covenants, closing conditions and indemnification and termination provisions by, among and for the benefit of the parties. LPC has covenanted not to cause or engage in any manner whatsoever, any direct or indirect short selling or hedging of the Company's shares of common stock. In consideration for entering into the \$20 million agreement, we issued to LPC 6,000,000 shares of our common stock and may issue up to an additional 3,500,000 shares pro rata if and when we sell to LPC up to an additional \$19.6 million of our common stock. The agreement may be terminated by us at any time at our discretion without any monetary cost to us. Actual sales of shares of Common Stock to LPC under the agreement will depend on a variety of factors to be determined by the Company from time to time, including (among others) market conditions, the trading price of the Common Stock and determinations by the Company as to available and appropriate sources of funding for the Company and its operations. The proceeds received by the Company under the agreement are expected to be used for product development, commercialization, strategic acquisitions, and general corporate purposes.

If the registration statement at any time ceases to be effective or if the Investors are not permitted to utilize the prospectus related to the registration statement to resell securities intended to be registered therein for more than 10 consecutive calendar days or for more than an aggregate of 15 calendar days during any twelve month period, then the Company is obligated to pay the affected Investors an amount in cash, as partial liquidated damages, equal to 2% multiplied by the aggregate subscription amount paid by the Investors each month until such condition is cured, plus interest if any such liquidated damages are paid beyond a specified payment date as provided for in the agreement.

Demand Promissory Note Payable Term Extension

On March 12, 2014, the Company opted to extend the maturity date of the \$500,000 Demand Promissory Note issued to Dominion Capital LLC on February 14, 2014 to August 14, 2014.

Appointment of the Company's New Chief Financial Officer

On April 1, 2014, Amaranthus Bioscience Holdings, Inc., a Nevada corporation (the "Company") appointed Robert Farrell, J.D. to serve as the Company's Chief Financial Officer (the "CFO"). Mr. Marc Faerber will now serve as the Company's Corporate Controller and Vice President of Financial Operations.

Mr. Farrell served as Chief Financial Officer of Titan Pharmaceuticals from 1996 to 2008, and as President and CEO from 2008 to 2010. During his tenure at Titan Mr. Farrell was responsible for all SEC filings, fund raising, financial and tax planning strategies, mergers & acquisitions, corporate partnerships, licensing transactions and financial operations. Mr. Farrell most recently served as CFO at Sanovas, Inc. Mr. Farrell previously served as CFO, Corporate Group Vice President and General Counsel at Fresenius USA and Fresenius Medical Care. Mr. Farrell also previously served as the CFO for the Institute for One World Health in San Francisco and currently serves on the Board of

Directors of Prime Genomics, Inc. Mr. Farrell holds a J.D. from the University of California's Hastings School of Law.

Mr. Farrell will initially be engaged as a contract consultant but is expected to be a full-time employee by the end of April 2014 upon execution of an employment agreement.

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Item 9. Changes In and Disagreements with Accountants on Accounting and Financial Disclosure.

Not applicable

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures. Our management, with the participation of our chief executive officer and our principal financial officer, evaluated the effectiveness of our disclosure controls and procedures as of the end of the period covered by this report. Based on that evaluation, our chief executive officer and our principal financial officer concluded that our disclosure controls and procedures as of the end of the period covered by this report were not effective to ensure that information required to be disclosed by us in reports that we file or submit under the Securities Exchange Act of 1934 is (i) recorded, processed, summarized and reported within the time periods specified in the Commission's rules and forms and (ii) accumulated and communicated to our management, including our chief executive officer and our principal financial office, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. A controls system cannot provide absolute assurance, however, that the objectives of the controls system are met, and no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within a company have been detected.

Management's Annual Report on Internal Control over Financial Reporting. Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act). Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes of accounting principles generally accepted in the United States.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Therefore, even those systems determined to be effective can provide only reasonable assurance of achieving their control objectives.

Our management, with the participation of our Chief Executive Officer and our Principal Financial Office, evaluated the effectiveness of the Company's internal control over financial reporting as of December 31, 2013. In making this assessment, our management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control — Integrated Framework. Based on this evaluation, our management, with the participation of the CEO, concluded that, as of December 31, 2013, our internal control over financial reporting was ineffective and identified the following material weaknesses:

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- There is a lack of accounting personnel with the requisite knowledge of Generally Accepted Accounting Principles in the U.S. (“GAAP”) and the financial reporting requirements of the U.S. Securities and Exchange Commission;
- There are insufficient written policies and procedures to insure the correct application of accounting and financial reporting with respect to the current requirements of GAAP and SEC disclosure requirements; and
- There is a lack of segregation of duties, in that the Company only had one person performing all accounting-related duties.

Notwithstanding the existence of these material weaknesses in the Company’s internal control over financial reporting, the Company’s management believes that the consolidated financial statements included in its reports fairly present in all material respects the Company’s financial condition, results of operations and cash flows for the periods presented.

The Company will continue its assessment on a quarterly basis and as soon operations begin the Company plans to hire personnel and resources to address these material weaknesses. The Company believes these issues can be solved with hiring in-house accounting support and plan to do so as soon as the Company has funds available for this. There has been no change in its internal control over financial reporting that occurred during the Company’s most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the Company’s internal control over financial reporting.

This annual report does not include an attestation report of the Company's registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by the Company's registered public accounting firm pursuant to rules of the Securities and Exchange Commission that permits us to provide only management's report in this annual report.

Changes in Internal Control over Financial Reporting. There were no changes in our internal control over financial reporting that occurred during the fourth quarter of the year ended December 31, 2013 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers, and Corporate Governance.

The following information sets forth the names, ages, and positions of the Company's current directors and executive officers:

Name	Age	Office(s) held
Gerald E. Commissiong	32	President and Chief Executive Officer, Director
Dr. John W. Commissiong	70	Chief Scientific Officer, Director
Robert Farrell	64	Chief Financial Officer
Marc E. Faerber	59	Controller, Vice President of Financial Operations, Treasurer, Secretary
Robert L. Harris	70	Director
Dr. Mark Benedyk	50	Director
Dr. David A. Lowe	68	Director

Set forth below is a brief description of the background and business experience of each of our current executive officers and directors.

Gerald E. Commissiong, Chief Executive Officer, President, Director

Mr. Commissiong has served as the Chief Operating Officer and a Director of Amarantus since April of 2011. On October 23, 2011, Mr. Commissiong was appointed to serve as the Company's Chief Executive Officer and President. Mr. Commissiong was the co-founder and original President and Chief Executive Officer of Amarantus, which was formerly known as CNS Protein Therapeutics, Inc. He played a significant role in sourcing the seed funding for the Company in 2008, assisted in developing a strategic corporate development pathway that involved the recruitment of relevant expertise, identification of appropriate development strategy, liaising with expertise to define development pathway, creation of a technological mitigation strategy and the identification of appropriate funding partners with a strategic interest in the Company's technology. Mr. Commissiong also recruited senior executives to the Board to guide the Company's growth and generated its official marketing materials, including investor brochures, corporate handouts, email newsletters and other materials necessary to raise awareness of the company. Prior to co-founding Amarantus, Mr. Commissiong played professional football for the Calgary Stampeders of the Canadian Football League. Mr. Commissiong holds a B.S. degree in Management Science and Engineering with a focus Financial Decisions from Stanford University. Mr. Commissiong is qualified to serve as Director because of his history with the Company and his management and leadership qualities. In addition, Mr. Commissiong's skills and knowledge of the financial markets makes him invaluable to the Company.

Dr. John W. Commissiong, Chief Scientific Officer, Director

Dr. Commissiong has served as the Chief Scientific Officer and a Director of Amaranthus since co-founding the Company in 2008. From 2000 through 2008 Dr. Commissiong served as the CSO of Neurotrophics Inc & Prescient Neuropharma Inc. Dr. Commissiong has been focused on the discovery of novel neurotrophic factors for the treatment of neurodegenerative diseases as well as understanding the fundamental underlying biology of protoplasmic type-1 astrocytes that secrete neurotrophic factors. He was Chief of the Neural Transplantation Unit, NINDS-NIH, from 1989-94 where his research focused on identifying therapeutic approaches to spinal cord injury. Dr. Commissiong was Head of the Neurotrophic Factors Group, NINDS-NIH, from 1994-97 where he focused on developing technologies to systematically identify novel neurotrophic factors with applications for specific Central Nervous System disorders. He co-founded Prescient Neuropharma in 1999, and discovered MANF in 2003. MANF is currently in preclinical development for the treatment of Parkinson's disease. The work pioneered by Dr. Commissiong has led to significant advancements in the field of astrocyte-neuron biology. Dr. Commissiong believes that a fundamental understanding of astrocyte-neuron interactions in the Central Nervous System will lead to a new generation of therapies to treat brain-related disorders.

Dr. Commissiong did his Postdoctoral work in the Lab Preclin Pharmac, NIMH-NIH, concentrating on the application of quadrupole mass spectrometry in the analysis of neurotransmitters. He holds a Ph.D. in Neurophysiology from the University of Southampton, a M.Sc. in Biochemical Pharmacology from the University of Southampton and a B.S. in Biology and Chemistry from the University of the West Indies.

Dr. Commissiong is qualified to serve as a Director because of his extensive experience in drug discovery, and research and his work in the field of astrocyte-neuron biology.

Robert Farrell, Chief Financial Officer

Mr. Farrell was appointed as the Company's Chief Financial Officer effective April 1, 2014, Mr. Farrell served as Chief Financial Officer of Titan Pharmaceuticals from 1996 to 2008, and as President and CEO from 2008 to 2010. During his tenure at Titan Mr. Farrell was responsible for all SEC filings, fund raising, financial and tax planning strategies, mergers & acquisitions, corporate partnerships, licensing transactions and financial operations. Mr. Farrell most recently served as CFO at Sanovas, Inc. Mr. Farrell previously served as CFO, Corporate Group Vice President and General Counsel at Fresenius USA and Fresenius Medical Care. Mr. Farrell also previously served as the CFO for the Institute for One World Health in San Francisco and currently serves on the Board of Directors of Prime Genomics, Inc. Mr. Farrell holds a J.D. from the University of California's Hastings School of Law.

Marc E. Faerber, Controller, Treasurer, Secretary and Vice President of Operations

Mr. Faerber has served as the Chief Financial Officer of Amaranthus since May 2009. In addition, Mr. Faerber has worked as an independent business and financial advisor since 2001 to the present. In that capacity, he provides financial, business and strategic advisory services to various startup entities, including medical device, biotechnology, software and alternative energy related companies. His services and experience include facilitating startups in establishing appropriate internal controls, developing administrative procedural processes, writing and critiquing business plans and strategies, preparation of company presentations, short term financial operating plans, and long term strategic financial planning, assisting organizations with seeking financing and rendering advice in various negotiations related to merger and acquisitions, distribution rights, technology licensing and other business structural issues, and review and implementation of internal control structures in support of Sarbanes Oxley compliance. Mr. Faerber is a licensed CPA (Inactive) in California and was a Certified Valuation Analyst from 2004 through 2007. He holds a B.S. in Business Administration from Providence College and has done course work towards a M.S. in Taxation at Golden Gate University.

Robert L. Harris, Director

Mr. Harris has served as a member of the Board of Amaranthus since December 2010. Mr. Harris is a retired Vice President of Environmental, Health, Safety, Technical and Land Services at Pacific Gas and Electric Company, where he worked from September 1972 to January 2007. He graduated from San Francisco State University in 1965 and received his Juris Doctor degree from the University of California School of Law at Berkeley (Boalt Hall) in 1972. He was admitted to the California State Bar in December 1972 and argued and won a case in the United States Supreme Court in 1985. Harris also completed the Harvard Graduate School of Business Advanced Management Program and the Management Development Program at Duke University's School of Business. For five years, Harris was selected by Ebony magazine as one of the "100 Most Influential Blacks in America" (1980, 1992, 1993, 1994 and 1995). Mr. Harris is qualified to serve as a Director because of his extensive experience as a business executive and his legal background.

Dr. Mark Benedyk, Director

Dr. Benedyk recently joined the Board of Amaranthus in March 2013. Dr. Benedyk is currently a Managing Partner at Rila Partners LLC, a business and corporate development consultancy. In this role he serves on the Strategic Advisory Board of KemPharm, Inc., is a Director at the Center for Drug Research and Development Ventures, Inc., and is a member of the Translational Medicine Advisory Board of the CNS Regenerative Medicine Foundation. Previously he was head of The Pfizer Incubator (TPI) where his duties included membership on the TPI Board of Directors, board positions with TPI portfolio companies, oversight of the TPI operations team, and reviewing investment opportunities in multiple technologies. Dr. Benedyk has held executive business development roles at Ascenta Therapeutics, Optimer Pharmaceuticals, Aurora Biosciences (acquired by Vertex Pharmaceuticals), and Elan Pharmaceuticals, where he led partnering efforts for several key clinical-stage products for the treatment of Alzheimer's Disease, migraine and other neurological indications. He received his Ph.D. in Developmental and Molecular Genetics from The Rockefeller University, and Bachelor of Science degree in Microbiology and Botany from the University of Michigan. Dr. Benedyk is qualified to serve as Director because of his business development experience and his experience working with biotech companies.

Dr. David A. Lowe

Dr. Lowe joined the Board in November 2013. Dr. Lowe is President & CEO of NeuroAssets, Sarl, a Swiss-based neuroscience-focused consulting firm, providing advisory services to pharmaceutical, venture capital and biotechnology companies throughout the world. Dr. Lowe previously served as the Chief Scientific Officer of Psychogenics, Inc. and before that as Director and Chief Scientific Officer of Memory Pharmaceuticals, Inc., a biotechnology company pursuing innovative treatments for Alzheimer's and Schizophrenia. Prior to Memory Pharmaceuticals, Dr. Lowe served as the Executive Vice President and Chief Scientific Officer at Fidelity Biosciences Group, Fidelity Investments in Boston, MA, an investment firm focused on the healthcare industry. He also served as President, CEO and Director of Envivo Pharmaceuticals, a Fidelity-funded pharmaceutical company pursuing new treatments for Alzheimer's disease now in Phase 3 development. Dr. Lowe also served as Vice-President and Therapeutic Area Head, Central Nervous System, at Roche Pharmaceuticals, Vice President & Global Therapeutic Area Head of Central Nervous System Research at Bayer AG., and Head of CNS Biology and Deputy Head of CNS Research at Sandoz Ltd (now Novartis). Dr. Lowe received his PhD in neurobiology from the University of Leeds, UK. Dr. Lowe is qualified to serve as Director because of his experience working in the pharmaceutical and drug industries and his scientific background.

Family Relationships

There are no family relationships between or among the directors, executive officers or persons nominated or chosen by the Company to become directors or executive officers, except that two of the Company's officers and directors, Dr. John Commissiong and Gerald Commissiong, are father and son.

Involvement in Certain Legal Proceedings

To our knowledge, our directors and executive officers have not been involved in any of the following events during the past ten years:

any bankruptcy petition filed by or against such person or any business of which such person was a general partner or executive officer either at the time of the bankruptcy or within two years prior to that time;

any conviction in a criminal proceeding or being subject to a pending criminal proceeding (excluding traffic violations and other minor offenses);

being subject to any order, judgment, or decree, not subsequently reversed, suspended or vacated, of any court of competent jurisdiction, permanently or temporarily enjoining him from or otherwise limiting his involvement in any type of business, securities or banking activities or to be associated with any person practicing in banking or securities activities;

being found by a court of competent jurisdiction in a civil action, the SEC or the Commodity Futures Trading Commission to have violated a Federal or state securities or commodities law, and the judgment has not been reversed, suspended, or vacated;

being subject of, or a party to, any Federal or state judicial or administrative order, judgment decree, or finding, not subsequently reversed, suspended or vacated, relating to an alleged violation of any Federal or state securities or commodities law or regulation, any law or regulation respecting financial institutions or insurance companies, or any law or regulation prohibiting mail or wire fraud or fraud in connection with any business entity; or

being subject of or party to any sanction or order, not subsequently reversed, suspended, or vacated, of any self-regulatory organization, any registered entity or any equivalent exchange, association, entity or organization that has disciplinary authority over its members or persons associated with a member.

Corporate Governance

Committees of the Board

Robert Harris and Mark Benedyk serve on the Compensation Committee of the Board, with Mr. Benedyk serving as the Chairman. Our Compensation Committee assists the Board in discharging its responsibilities relating to executive compensation, succession planning for the Company's executive team, and to review and make recommendations to the Board regarding employee benefit policies and programs, incentive compensation plans and equity-based plans.

Robert Harris and David Lowe serve on the Governance and Nominating Committee of the Board, with Mr. Harris serving as the Chairman. The Nominating and Corporate Governance Committee is responsible for overseeing the appropriate and effective governance of the Company, including, among other things, (a) nominations to the Board of Directors and making recommendations regarding the size and composition of the Board of Directors and (b) the development and recommendation of appropriate corporate governance principles.

The Company does not have a separately designated standing audit committee. The entire Board performs the functions of an audit committee, but no written charter governs the actions of the Board when performing the functions of what would generally be performed by an audit committee. The Board approves the selection of the Company's independent accountants and meets and interacts with the independent accountants to discuss issues related to financial reporting. In addition, the Board reviews the scope and results of the audit with the independent accountants, reviews with management and the independent accountants the Company's annual operating results, considers the adequacy of the Company's internal accounting procedures and considers other auditing and accounting matters including fees to be paid to the independent auditor and the performance of the independent auditor.

The Company's Board, which performs the functions of an audit committee, does not currently have a member who would qualify as an "audit committee financial expert" within the definition of Item 407(d)(5)(ii) of Regulation S-K. Marc Faerber, the Company's our Controller, Secretary and Treasurer, Treasurer and former Chief Financial Officer attends all meetings of the Company's Board, including those meetings at which the Board is performing those functions which would generally be performed by an audit committee. Mr. Faerber is a licensed CPA (inactive) in California. Mr. Faerber is experienced in facilitating startups in establishing appropriate internal controls, developing administrative procedural processes, and review and implementation of internal control structures in support of Sarbanes Oxley compliance. Mr. Faerber is technically proficient concerning GAAP, SEC and IRS rules and reporting, and in addressing internal control issues and assuring SOX compliance.

Code of Ethics

Amarantus Bioscience Holdings, Inc. is committed to maintaining the highest standards of ethical conduct. Our Code of Business Conduct and Ethics ("Code") for Directors reflects the business practices and principles of behavior that support this commitment. Our Board of Directors sets the standards of conduct contained in the Code and updates these standards as appropriate to reflect legal and regulatory developments. We expect every director to read and understand this Code and its application to the performance of his or her responsibilities. We hold each of our directors accountable for adherence to this Code.

Board Leadership Structure and Role in Risk Oversight

Our Board of Directors is primarily responsible for overseeing our risk management processes. The Board of Directors receives and reviews periodic reports from management, auditors, legal counsel, and others, as considered appropriate regarding our Company's assessment of risks. The Board of Directors focuses on the most significant risks facing our company and our Company's general risk management strategy, and also ensures that risks undertaken by our Company are consistent with the Board's appetite for risk. While the Board oversees our Company, our Company's management is responsible for day-to-day risk management processes. We believe this division of responsibilities is the most effective approach for addressing the risks facing our Company and that our Board leadership structure supports this approach.

Item 11. Executive Compensation.**Summary Compensation Table**

The table below summarizes all compensation awarded to, earned by, or paid to each named executive officer for the Company's last two completed fiscal years for all services rendered to the Company.

SUMMARY COMPENSATION TABLE

Name and principal Position	Year	Salary (\$)	Bonus (\$)	Stock Awards (\$)	Option Awards (\$)	Non-Equity Incentive Compensation (\$)	Nonqualified Deferred Compensation Earnings (\$)	All Other Compensation (\$)	Total (\$)
Gerald E. Commissiong, President, Chief Executive Officer	2013	-	230,111	18,250	-	-	-	-	248,361
	2012	-	-	-	456,031	-	-	-	456,031
	2011	24,758	-	-	36,750	-	-	-	61,508
Dr. John W. Commissiong, Chief Scientific Officer	2013	-	213,763	-	-	-	-	-	213,763
	2012	-	-	10,480	299,438	-	-	-	309,918
	2011	24,758	-	-	24,623	-	-	-	49,381
Marc Faerber, Chief Financial Officer, Treasurer, Secretary (3)	2013	260,951	-	10,480	-	-	-	-	271,431
	2012	248,344	-	-	299,438	-	-	-	547,782
	2011	178,465	-	-	22,074	-	-	-	200,539
Martin D. Cleary, Former Chief Executive Officer, President (1)	2013	-	-	-	-	-	-	-	-
	2012	-	-	-	12,375	-	-	-	12,375
	2011	200,000	-	-	44,136	-	-	-	244,136
Richard Douglas, former Sole Officer (and Director) (2)	2012	-	-	-	-	-	-	-	-
	2011	-	-	-	-	-	-	-	-

(1) Mr. Cleary resigned from his position as President and Chief Executive Officer on October 23, 2011. He remained on as Chairman of the Board until his resignation on July 31, 2012.

(2) Mr. Douglas resigned from his positions as the Sole Officer and Director of the Company on May 25, 2011.

(3) Mr. Faerber has released the Company from obligations to pay \$276,000 of accrued compensation as of December 31, 2013.

Outstanding Equity Awards at Fiscal Year-End

The table below summarizes all unexercised options, stock that has not vested, and equity incentive plan awards for each named executive officer as of December 31, 2013.

OUTSTANDING EQUITY AWARDS AT FISCAL YEAR-END TABLE

OPTION AWARDS

STOCK AWARDS

Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Options (#)	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Stock That Have Not Vested (#)	Market Value of Shares or Stock That Have Not Vested (\$)	Plan Awards: Number of Shares or Other Rights That Have Not Vested (#)	Payout Value of Unearned Shares, Other Rights That Have Not Vested	Equity Incentive Plan Awards:
										Market Value of Shares or Stock That Have Not Vested (\$)
Gerald E. Commissiong, President and Chief Executive Officer, Director	269,329 (1)	- (1)	- (1)	\$0.0237 (1)	4/10/21 (1)	(1)	-	-	-	-
	560,456 (2)	410,794 (2)	- (2)	\$0.225 (2)	7/15/22 (2)	(2)	-	-	-	-
				\$0.7000 (2)	11/4/22 (2)	(2)	-	-	-	-
Dr. John W. Commissiong, Chief Scientific Officer, Director	131,557 (1)	- (1)	- (1)	\$0.0237 (1)	4/10/21 (1)	(1)	-	-	-	-
	406,797 (2)	290,703 (2)	- (2)	\$0.225 (2)	7/15/22 (2)	(2)	-	-	-	-
				\$0.7000 (2)	11/4/22 (2)	(2)	-	-	-	-
Marc E. Faerber, Chief Financial Officer, Treasurer, Secretary	- (1)	- (1)	- (1)	- (1)	- (1)	(1)	-	-	-	-
	277,734 (2)	209,766 (2)	- (2)	\$0.225 (2)	7/15/22 (2)	(2)	-	-	-	-
				\$0.700 (2)	11/4/22 (2)	(2)	-	-	-	-

(1) Common stock shares

(2) Preferred stock shares

Director Compensation

The following summary compensation table sets forth all compensation awarded to, earned by, or paid to the named directors by the Company during the year ended December 31, 2013.

DIRECTOR COMPENSATION TABLE

Name	Fees Earned or Paid in Cash (\$)	Stock Awards (\$)	Option Awards (\$)	Non-Equity Incentive Plan Compensation (\$)	Non- Qualified Deferred Compensation Earnings (\$)	All Other Compensation (\$)	Total Compensation (\$)
Gerald E. Commissiong, Director	-	-	-	-	-	-	-
Dr. John W. Commissiong, Director	-	-	-	-	-	-	-
Robert L. Harris, Director	30,000	-	-	-	-	-	30,000
Dr. Mark Benedyk	15,250	-	13,750	-	-	-	29,000
Dr. David A. Lowe	3,000	-	-	-	-	-	3,000

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The following table sets forth the beneficial ownership of the Company's capital stock by each executive officer and director, by each person known by the Company to beneficially own more than five percent (5%) of any class of stock and by the executive officers and directors as a group. Except as otherwise indicated, all shares of common stock are owned directly and the percentage shown is based on 575,038,163 shares of common Stock issued and outstanding as of March 31, 2014. As used in this table, "beneficial ownership" means the sole or shared power to vote, or to direct the voting of, a security, or the sole or shared investment power with respect to a security (i.e., the power to dispose of, or to direct the disposition of, a security). In addition, for purposes of this table, a person is deemed, as of any date, to have "beneficial ownership" of any security that such person has the right to acquire within 60 days after such date. Except as otherwise notice, the address of each officer and director listed is c/o of the Company at 675 Almanor Ave., Sunnyvale, CA 94085.

Title of class	Name and address of beneficial owner	Amount of beneficial ownership	Percent of class(1)
Current Executive Officers & Directors:			
Common Stock	Gerald E. Commissiong	8,594,818	(2) 1.20 %
Common Stock	Dr. John W. Commissiong	20,467,371	(3) 2.86 %
Common Stock	Marc Faerber	1,286,625	(4) 0.18 %
Common Stock	Robert L. Harris	10,431,653	(5) 1.46 %
Common Stock	Dr. Mark Benedyk	776,923	(6) 0.11 %
Common Stock	Dr. David A. Lowe	200,000	0.03 %

Total of All Officers and Directors:	41,757,390	5.84	%
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5% Beneficial Owners: None

(1) Based on 715,074,189 shares of our common stock outstanding as of April 15, 2014.

(2) Includes: (a) 263,329 shares of common stock underlying an option to purchase shares at a price of \$0.0237 per share which are exercisable within the next 60 days; (b) 350,000 shares of common stock which are issuable upon conversion of 350,000 shares of Series C Convertible Preferred stock; (iii) 138,889 shares of common stock which are issuable upon conversion of a convertible debenture; and (iv) 138,889 shares of common stock which are issuable upon exercise of outstanding warrants.

(3) Includes: 131,557 shares underlying an option to purchase shares at a price of \$0.0237 which are exercisable within the next 60 days; (ii) 200,000 shares of common stock which are issuable upon conversion of 200,000 shares of Series C Convertible Preferred Stock; (iii) 138,889 shares of common stock issuable upon conversion of a convertible debenture; and (iv) 138,889 shares of common stock which are issuable upon exercise of outstanding warrants..

(4) Includes 200,000 shares of common stock issuable upon conversion of 200,000 shares of Series C Convertible Preferred stock.

(5) Includes: (i) 4,630,432 shares issuable upon conversion of convertible notes; (ii) 138,889 shares of common stock issuable upon conversion of a convertible debenture; (iii) 138,889 shares of common stock which are issuable upon exercise of outstanding warrants; and (iv) 1,359,375 shares which are owned by Mr. Harris' spouse.

(6) Includes 776,923 shares of common stock underlying an option to purchase shares at a price of \$0.052 per share within the next 60 days.

Item 13. Certain Relationships and Related Transactions, and Director Independence

Except as set forth below, during the last fiscal year, there have been no transactions, whether directly or indirectly, between us and any of our officers, directors or their family members.

On November 6, 2013, the Company announced the appointment of David A. Lowe, Ph.D. to its Board of Directors. Dr. Lowe is President & CEO of NeuroAssets, Sarl, a Swiss-based neuroscience-focused consulting firm, providing advisory services to pharmaceutical venture capital and biotechnology companies throughout the world. NeuroAssets has been providing consulting services to the Company since April 2012.

Director Independence

When applying the definition of independence set forth in Rule 4200(a)(15) of The Nasdaq Stock Market, Inc., the Company believes that Robert L. Harris and Dr. Mark Benedyk are independent directors.

Item 14. Principal Accounting Fees and Services

The following table sets forth fees billed to us by our independent auditors for the years ended 2013 and 2012 for (i) services rendered for the audit of our annual financial statements and the review of our quarterly financial statements, (ii) services rendered that are reasonably related to the performance of the audit or review of our financial statements that are not reported as Audit Fees, and (iii) services rendered in connection with tax preparation, compliance, advice and assistance.

SERVICES	2013	2012
Audit fees	\$50,250	\$28,000
Audit-related fees	-	-
Tax fees	-	-
All other fees	-	-
Total fees	\$50,250	\$28,000

PART IV

Item 15. Exhibits, Financial Statements Schedules.

Exhibit No.	Description
3.1	Articles of Incorporation of Amaranthus BioScience, Inc. filed with the Secretary of State of Nevada on March 22, 2013. Incorporated by reference to Exhibit 3.1 of the Company's Current Report on Form 8-K filed April 1, 2013.
3.2	Certificate of Amendment to Certificate of Incorporation (5)
3.3	Certificate of Amendment to the Certificate of Incorporation (11) Certificate of Designation of Series B Preferred Stock filed with the Secretary of State on April 2, 2013. Incorporated by reference to the Company's Current Report on Form 8-K filed
3.4	Bylaws. Incorporated by reference to Exhibit 3.1 of the Company's Current Report on Form 8-K filed April 1, 2013
3.5	Certificate of Amendment to Certificate of Incorporation-Delaware (13)
4.1	Senior Secured Convertible Promissory Note Agreement dated December 28, 2010. Incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K/A filed June 3, 2011
4.2	Form of Rights Agreement, Form of Certificate of Designations, Form of Right Certificate, and the Form of Summary of Rights to Purchase Preferred Shares (16)
10.1	Second Amendment to Senior Secured Convertible Promissory Note Agreement(1)
10.2	Convertible Promissory Note Agreement as amended on March 23, 2011. Incorporated by reference to Exhibit 10.3 of the Company's Current Report on Form 8-K/A filed June 3, 2011.
10.3	Note and Warrant Purchase Agreement – Molecular Medicine Research Institute Incorporated by reference to Exhibit 10.4 of the Company's Current Report on Form 8-K/A filed June 3, 2011.
10.4	Sponsored Research Agreement. Incorporated by reference to Exhibit 10.5 of the Company's Current Report on Form 8-K/A filed June 3, 2011.
10.5	Note and Warrant Purchase Agreement – The Parkinson's Institute. Incorporated by reference to Exhibit 10.6 of the Company's Current Report on Form 8-K/A filed June 3, 2011.
10.6	Promissory Note – Neurotophics, Inc. Incorporated by reference to the Company's Current Report on Form 8-K/A filed June 3, 2011.
10.7	Intellectual Property Assignment Incorporated by reference to Exhibit 10.8 of the Company's Current Report on Form 8-K/A filed June 3, 2011.
10.8	Data Transfer Agreement Incorporated by reference to Exhibit 10.9 of the Company's Current Report on Form 8-K/A filed June 3, 2011.
10.9	Consulting Agreement with Keelin Reeds Partners Incorporated by reference to Exhibit 10.10 of the Company's Current Report on Form 8-K/A filed June 3, 2011.
10.10	Executive Services Agreement, as amended. Incorporated by reference to Exhibit 10.11 of the Company's Current Report on Form 8-K/A filed June 3, 2011.
10.11	Sublease Incorporated by reference to Exhibit 10.12 of the Company's Current Report on Form 8-K/A filed June 3, 2011.
10.12	MJFF Research Grant Terms and Conditions Incorporated by reference to Exhibit 10.13 of the Company's Current Report on Form 8-K/A filed June 3, 2011.
10.13	2008 Stock Plan. Incorporated by reference to Exhibit 10.14 of the Company's Current Report on Form 8-K/A filed June 3, 2011.

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- 10.14 Letter of Agreement with Argot Partners, LLC Incorporated by reference to Exhibit 10.15 of the
Company's Current Report on Form 8-K/A filed June 3, 2011.
- 10.15
- 10.16 Consent to Assignment between Juvaris BioTherapeutics, Inc. and the Company dated May 31, 2011.
Incorporated by reference to Exhibit 10.2 of the Company's Current Report on Form 8-K filed June 15,
2011
- 10.17 Lease Agreement, as amended – Juvaris BioTherapeutics, Inc. Incorporated by reference to Exhibit 10.3 of
the Company's Current Report on Form 8-K filed June 15, 2011
- 10.18 Note Purchase Agreement – Samuel Herschkowitz. Incorporated by reference to Exhibit 10.2 of the
Company's Current Report on Form 8-K filed October 3, 2011
- 10.19 Promissory Note dated October 4, 2011 issued by the Company to Samuel Herschkowitz. Incorporated
by reference to Exhibit 10.2 of the Company's Current Report on Form 8-K filed October 3, 2011

- 10.20 Letter Agreement regarding Pledged Shares between the Company and Samuel Herschkowitz. Incorporated by reference to Exhibit 10.3 of the Company's Current Report on Form 8-K filed October 3, 2011.
- 10.21 Not used
- 10.22 Not used
- 10.23 Exclusive License Agreement between Power 3 Medical Products, Inc. and the Company dated January 18, 2012. Incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K filed January 30, 2012
- 10.26 Convertible Promissory Note issued November 14, 2012 to Dominion Capital, LLC Incorporated by reference to Exhibit 10.1 of the Company's Quarterly Report on Form 10-Q filed on November 14, 2012.
- 10.27
- 10.28 Exclusive License Agreement, effective December 14th, 2012, by and between Amaranthus Biosciences and Memory Dx, LLC (14)
- 10.29 Bill of Sale, dated December 19, 2012, by and between Lowell T. Cage, as the chapter 7 Trustee for Power3 Medical Products, Inc. and Amaranthus Biosciences, Inc. Incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K filed December 26, 2012
- 10.30 Order Authorizing Sales of Intellectual Property Free and Clear of Liens, Claims and Encumbrances, dated December 17, 2012. Incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K filed December 26, 2012.
- 10.31 Copy of Letter of Intent between Amaranthus BioScience, Inc. and Brewer Sports International, LLC dated as of December 28, 2012 (17)
- 10.32 Amendment No 1 to Convertible Promissory Note issued to Dominion Capital, LLC. Incorporated by reference to Exhibit 10.32 to the Company's annual report on Form 10-K filed on April 18, 2013.
- 10.33 Amendment No. 2 to Convertible Promissory Note issued to Dominion Capital, LLC. Incorporated by reference to Exhibit 10.33 to the Company's annual report on Form 10-K filed on April 18, 2013.
- 10.34 Amended and Restated Convertible Promissory note - issued to Dominion Capital, LLC in the principal amount of \$375,000. Incorporated by reference to Exhibit 10.34 to the Company's annual report on Form 10-K filed on April 18, 2013.
- 10.35 Securities Purchase Agreement dated September 3, 2013
- 10.36 Form of 8% Original Issue Discount Senior Convertible Debenture due September 6, 2014
- 10.37 Form of Registration Rights Agreement entered into in connection with the Securities Purchase Agreement dated September 3, 2013 and October 2, 2013 dated September 3, 2013
- 10.38 Form of Common Stock Purchase entered into in connection with the Securities Purchase Agreement dated September 3, 2013 and October 2, 2013 Warrant
- 10.39 Form of Subsidiary Guarantee entered into in connection with Securities Purchase Agreement dated September 3, 2013 and October 2, 2013. Incorporated by reference to the Company's Registration Statement on Form S-1 filed on December 2, 2013
- 10.40 Securities Purchase Agreement dated October 2, 2013. Incorporated by reference to the Company's
- 10.41 Registration Statement on Form S-1 filed on December 2, 2013
- 10.42 Form of 8% Original Issue Discount Senior Convertible Debenture due October 2, 2014. Incorporated by reference to the Company's Registration Statement on Form S-1 filed on December 2, 2013
- 10.43 Amendment No. 1 to Registration Rights Agreement dated October 2, 2013. Incorporated by reference to the Company's Registration Statement on Form S-1 filed on December 2, 2013.
- 10.44* Option Agreement between the Company and the University of Miami dated November 27, 2013.
- 10.45* Exclusive License Agreement between the Company and the University of Massachusetts date December 12, 2013.
- 10.46
- 10.47* Demand Promissory Note issued to Dominion Capital LLC.
- 10.48* Option Agreement with the University of Massachusetts dated as of February 28, 2014.

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10.49 Purchase Agreement, dated as of March 7, 2014, by and between the Company and Lincoln Park Capital Fund, LLC. Incorporated by reference to Exhibit 10.1 to the Company's current report on Form 8-K filed March 13, 2014.

10.50 Registration Rights Agreement dated as of March 7, 2014, by and between the Company and Lincoln Park Capital Fund, LLC. Incorporated by reference to Exhibit 10.2 to the Company's current report on Form 8-K filed March 13, 2014.

Amended and Restated Convertible Promissory note issued to Dominion Capital, LLC in the principal amount 10.35 of \$187,500. Incorporated by reference to Exhibit 10.35 to the Company's annual report on Form 10-K filed on April 18, 2013.

21* List of Subsidiaries

23.1* Consent of Marcum LLP

23.2* Consent of Silberstein Ungar, PLLC

31.1* Certification of Chief Executive Officer pursuant to Rule 13a-14 of the Securities Exchange Act of 1934

31.2* Certification of Chief Financial Officer pursuant to Rule 13a-14 of the Securities Exchange Act of 1934

32.1* Certification of Chief Executive Officer pursuant to Section 1350

32.2* Certification of Chief Financial Officer pursuant to Section 1350

* Filed herewith.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

AMARANTUS BIOSCIENCE HOLDINGS, INC.

Date: April 21, 2014 By: */s/ Gerald E. Commissiong*
Name: Gerald E. Commissiong
Title: Chief Executive Officer

(Principal Executive Officer)

Date: April 21, 2014 By: */s/ Marc E. Faerber*
Name: Marc E. Faerber
Title: Chief Financial Officer

(Principal Financial Officer)

(Principal Accounting Officer)

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Name	Position	Date
<i>/s/ Gerald E. Commissiong</i> Gerald E. Commissiong	Chief Executive Officer (Principal Executive Officer), President, Director	April 21, 2014
<i>/s/ Marc E. Faerber</i> Marc E. Faerber	Chief Financial Officer (Principal Financial and Accounting Officer), Secretary, Treasurer	April 21, 2014
<i>/s/ John Commissiong</i> John Commissiong	Chief Scientific Officer, Director	April 21, 2014

/s/ Robert L. Harris
Robert L. Harris

Director

April 21, 2014

/s/ Robert Farrell
Robert Farrell

Chief Financial Officer, Director

April 21, 2014