

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

FORM 10-Q

**QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
FOR THE QUARTERLY PERIOD ENDED: JUNE 30, 2014**

**TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
FOR THE TRANSITION PERIOD FROM _____ TO _____**

Commission File Number: 000-55016

Amarantus Bioscience Holdings, Inc

(Exact name of registrant as specified in its charter)

Nevada

(State or other jurisdiction of
incorporation or organization)

26-0690857

(I.R.S. Employer Identification No.)

c/o Janssen Labs@QB3, 953 Indiana Street, San Francisco, CA 94085

(Address of principal executive offices)

(408) 737-2734

(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. 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 (Section 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

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

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company)

Smaller reporting company

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

As August 14, 2014, the issuer had a total of 756,714,307 shares of common stock, \$0.001 par value, outstanding.

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PART I. FINANCIAL INFORMATION
Item 1. Condensed Consolidated Financial Statements (Unaudited)

Amarantus Bioscience Holdings, Inc.
CONDENSED CONSOLIDATED BALANCE SHEETS
(Unaudited)
(in thousands, except share and per share data)

	June 30, 2014	December 31, 2013
<u>ASSETS</u>		
Current assets:		
Cash and cash equivalents	\$ 1,402	\$ 1,033
Receivable from sale of stock	146	-
Deferred funding fees, net	3	109
Prepaid expenses and other current assets	250	106
Total current assets	1,801	1,248
Property and equipment, net	50	-
Intangible assets, net	1,561	611
Total assets	\$ 3,412	\$ 1,859
<u>LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)</u>		
Current liabilities:		
Accounts payable (includes related parties \$390 and \$490 as of June 30, 2014 and December 31, 2013, respectively)	2,006	972
Related party liabilities and accrued interest	250	248
Accrued expenses	257	292
Accrued interest	52	112
Demand promissory note	500	-
8% Senior convertible debentures, net of discount	124	932
Convertible promissory notes	85	124
Derivative liability	325	5,859
Total current liabilities	3,599	8,539
Total liabilities	3,599	8,539
Commitments and contingencies	-	-
Series D convertible preferred stock, \$1,000 stated value; 1,300 shares designated; 1,299.327 issued and outstanding as of and December 31, 2013	-	839
Stockholders' equity (deficit)		
Convertible preferred stock, \$0.001 par value — 10,000,000 shares authorized:		
Series A, \$0.001 par value, 250,000 shares designated, -0- shares issued and outstanding as of June 30, 2014 and December 31, 2013	-	-
Series B, \$0.001 par value, 3,000,000 shares designated, -0- shares issued and outstanding as of June 30, 2014 and December 31, 2013	-	-
Series C, \$0.001 par value, 750,000 shares designated, 750,000 shares issued and outstanding as of June 30, 2014 and December 31, 2013	1	1
Series D, \$1,000 stated value; 1,300 shares designated; 1,299.327 issued and outstanding as of June 30, 2014	839	-
Common stock, \$0.001 par value — 1,000,000,000 shares authorized; 746,569,263 and 574,171,945 shares issued and outstanding at June 30, 2014 and December 31, 2013, respectively	747	574
Additional paid-in capital	34,877	18,938
Accumulated deficit	(36,651)	(27,032)
Total stockholders' equity (deficit)	(187)	(7,519)
Total liabilities and stockholders' equity (deficit)	\$ 3,412	\$ 1,859

See notes to condensed consolidated financial statements.

Amarantus Bioscience Holdings, Inc
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)
(in thousands, except share and per share data)

	Three Months Ended June 30, 2014	Three Months Ended June 30, 2013 (Restated)	Six Months Ended June 30, 2014	Six Months Ended June 30, 2013 (Restated)
Net sales	\$ —	\$ —	\$ —	\$ —
Operating expense:				
Research and development	1,640	474	2,157	1,138
General and administrative	2,101	830	3,220	2,051
	<u>3,741</u>	<u>1,304</u>	<u>5,377</u>	<u>3,189</u>
Loss from operations	<u>(3,741)</u>	<u>(1,304)</u>	<u>(5,377)</u>	<u>(3,189)</u>
Other income (expense):				
Interest Expense	(71)	(268)	(709)	(1,141)
Loss on issuance of common stock	—	—	(67)	—
Loss on issuance of warrants	—	—	(3,867)	—
Other Income (Expense)	(20)	—	(20)	—
Change in fair value of warrant & derivative liabilities	(193)	375	473	(1,505)
Total other income (expense)	<u>(284)</u>	<u>107</u>	<u>(4,190)</u>	<u>(2,646)</u>
Net Loss	<u>\$ (4,025)</u>	<u>\$ (1,197)</u>	<u>\$ (9,567)</u>	<u>\$ (5,835)</u>
Preferred stock dividend	26	—	52	—
Net loss attributable to common stockholders	(4,051)	(1,197)	(9,619)	(5,835)
Basic and diluted net (loss) per common share	<u>\$ (0.01)</u>	<u>\$ (0.00)</u>	<u>\$ (0.01)</u>	<u>\$ (0.02)</u>
Basic and diluted weighted average common shares outstanding	<u>734,023,717</u>	<u>397,175,440</u>	<u>682,657,535</u>	<u>380,084,393</u>

See notes to condensed consolidated financial statements.

Amarantus Bioscience Holdings, Inc

CONDENSED CONSOLIDATED STATEMENTS STATEMENT OF STOCKHOLDERS' EQUITY (DEFICIT)

(Unaudited)

(in thousands, except share and per share data)

	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 December 31, 2013	750,000	\$ 1	574,171,945	\$ 574	\$ 18,938	\$ (27,032)	\$ (7,519)
Common stock issued for services	—	—	2,500,000	2	182	—	184
Common stock issued for license	—	—	3,641,002	4	224	—	228
Common stock sold	—	—	4,000,000	4	396	—	400
Deferred funding costs charged to equity upon sale of common stock	—	—	—	—	(400)	—	(400)
Common stock issued for funding fees	—	—	6,000,000	6	510	—	516
Common stock issued upon conversion of 8% senior convertible debentures	—	—	77,405,866	78	3,013	—	3,091
Common stock issued in settlement of notes payable	—	—	1,095,759	1	10	—	11
Common stock issued for Series D convertible preferred stock dividend	—	—	866,218	1	25	—	26
Loss on issuance of common stock	—	—	—	—	67	—	67
Common stock issued upon exercise of common stock warrants	—	—	60,000,000	60	3,540	—	3,600
Deferred funding costs charged to equity upon exercise of warrants	—	—	—	—	(190)	—	(190)
Loss on issuance of warrants	—	—	—	—	3,867	—	3,867
8% senior convertible debentures converted and associated reclassification of derivative liability	—	—	—	—	3,044	—	3,044
Series D convertible preferred stock 8% dividend accrued at period end	—	—	—	—	—	(26)	(26)
Stock-based compensation expense	—	—	—	—	202	—	202
Net loss	—	—	—	—	—	(5,542)	(5,542)
Balances as of March 31, 2014	750,000	\$ 1	729,680,790	\$ 730	\$ 33,428	\$ (32,600)	\$ 1,559
Common stock issued for services	—	—	4,229,818	4	406	—	410
Common stock issued for license	—	—	1,858,998	2	1242	—	126
Common stock sold - LPC	—	—	1,500,000	2	144	—	146
Deferred funding costs charged to equity upon sale of common stock - LPC	—	—	—	—	(118)	—	(118)
Common stock issued as consideration for commitment fee - LPC	—	—	25,463	—	2	—	2
Common stock issued upon conversion of 8% senior convertible debentures	—	—	4,567,534	4	178	—	182
Common stock issued in conversion of convertible promissory notes	—	—	1,062,667	1	20	—	21
Common stock issued for Series D convertible preferred stock dividend	—	—	866,218	1	25	—	26
Common stock issued upon exercise of common stock warrants	—	—	2,777,775	3	164	—	167
8% senior convertible debentures converted and associated reclassification of derivative liability	—	—	—	—	230	—	230
Reclassification of series D convertible preferred stock into stockholders' equity (deficit)	1,299	839	—	—	—	—	839
Series D convertible preferred stock 8% dividend accrued at period end	—	—	—	—	—	(26)	(26)
Stock-based compensation expense	—	—	—	—	274	—	274
Net loss	—	—	—	—	—	(4,025)	(4,025)
Balances as of June 30, 2014	751,299	\$ 840	746,569,263	\$ 747	\$ 34,877	\$ (36,651)	\$ (187)

See notes to condensed consolidated financial statements.

Amarantus Bioscience Holdings, Inc
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)
(in thousands)

	Six Months Ended June 30,	
	2014	2013 (Restated)
Cash flows from operating activities		
Net loss	\$ (9,567)	\$ (5,835)
Adjustments to reconcile net loss to net cash used in operating activities		
Depreciation and amortization	6	-
Amortization of debt discount	572	596
Amortization of deferred financing fees	106	133
Amortization of intangibles	53	-
Stock issued for services	595	65
Write-off of clinical trial material	500	-
Loss on stock issuance	67	-
Loss on warrant issuance	3,867	-
Non-cash interest expense related to warrants and derivative	32	-
Change in fair value of warrants and derivative liability	(473)	1,505
Stock-based compensation expense	475	598
Changes in assets and liabilities:		
Clinical trial material	(500)	-
Receivable for sale of common stock	(146)	-
Deferred funding fees	116	-
Prepaid expenses and other current assets	(144)	(27)
Accounts payable	824	954
Related party liabilities and accrued interest	2	24
Accrued expenses and accrued interest	(18)	341
Net cash used in operating activities	<u>(3,633)</u>	<u>(1,646)</u>
Cash flows from investing activities		
Acquisition of property and equipment	(56)	-
Acquisition of intangible assets	(600)	(34)
Net cash used by investing activities	<u>(656)</u>	<u>(34)</u>
Cash flows from financing activities		
Proceeds from demand and convertible notes	500	1,733
Repayment of convertible promissory notes	(9)	(143)
Proceeds from issuance of common stock	400	-
Proceeds from exercise of warrants	3,767	-
Net cash provided by financing activities	<u>4,658</u>	<u>1,590</u>
Net increase (decrease) in cash and cash equivalents	369	(90)
Cash and cash equivalents		
Beginning of period	1,033	157
End of period	<u>\$ 1,402</u>	<u>\$ 67</u>

Amarantus Bioscience Holdings, Inc
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS, continued
(Unaudited)
(in thousands)

	Six Months Ended June 30,	
	2014	2013 (Restated)
Supplemental schedule of non-cash activities:		
Convertible debentures converted and associated reclassification of derivative liabilities	\$ 8,238	\$ -
Debt discount written off - associated with convertible promissory notes	\$ (1,787)	\$ -
Convertible promissory notes issued for payables and accrued liabilities	\$ 2	\$ 161
Convertible notes payable issued for accounts payables	\$ -	\$ 188
Stock issued for deferred funding fees	\$ 518	\$ -
Stock subscription	\$ 146	\$ -
Intangible asset	\$ (50)	\$ -
Deferred funding fees charged to equity upon sale of common stock	\$ (518)	\$ -
Stock issued to acquire intangible assets	\$ 103	\$ 79
Reclass of Series D Preferred from mezzanine to equity	\$ 839	\$ -
Stock issued to satisfy accounts payable and accrued expenses	\$ 22	\$ 770
Stock issued for notes payable	\$ -	\$ 600
Stock issued for warrant obligations	\$ -	\$ 78
Debt discount for derivative conversion feature	\$ -	\$ 645
Stock issued for convertible debt	\$ 11	\$ 563
Supplemental cash flow information		
Interest payments	\$ 1	\$ -

See notes to condensed consolidated financial statements.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)
(in thousands, except share and per share data)

1. GENERAL

Amarantus Bioscience Holdings, Inc. (the “Company”) is a Nevada corporation that was formed to facilitate a merger with Amarantus BioScience, Inc., a Delaware corporation that was incorporated on January 14, 2008. The Company is a 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 June 30, 2014, the Company has been primarily engaged in biotechnology research and development and raising capital to fund its operations.

Basis of Presentation

The accompanying unaudited condensed financial statements as of June 30, 2014 and for the three and six months then ended have been prepared in accordance with the accounting principles generally accepted in the United States of America (“U.S. GAAP”) for interim financial information and pursuant to the instructions to Form 10-Q and Article 8 of Regulation S-X of the Securities and Exchange Commission (“SEC”) and on the same basis as the Company prepares its annual audited consolidated financial statements. The condensed consolidated balance sheet as of June 30, 2014, condensed consolidated statements of operations for the three and six months ended June 30, 2014 and 2013, condensed consolidated statement of stockholders’ equity (deficit) for the six months ended June 30, 2014, and the condensed consolidated statements of cash flows for the six months ended June 30, 2014 and 2013 are unaudited, but include all adjustments, consisting only of normal recurring adjustments, which the Company considers necessary for a fair presentation of the financial position, operating results and cash flows for the periods presented. The results for the three and six months ended June 30, 2014 are not necessarily indicative of results to be expected for the year ending December 31, 2014 or for any future interim period. The condensed balance sheet at December 31, 2013 has been derived from audited financial statements; however, it does not include all of the information and notes required by U.S. GAAP for complete financial statements. The accompanying condensed financial statements should be read in conjunction with the consolidated financial statements for the year ended December 31, 2013, and notes thereto included in the Company’s annual report on Form 10-K, which was filed with the SEC on April 1, 2014.

Significant Accounting Policies

There have been no material changes in the Company’s significant accounting policies to those previously disclosed in the 2013 Annual Report.

As the Company has not yet commenced any revenue-generating operations, does not have cash flows from operations, and is dependent on debt and equity funding to finance its operations, the Company is considered a development stage company, as defined. The Company’s activities are subject to significant risks and uncertainties, as described in the liquidity and going concern footnote and including failing to secure additional funding to operationalize the Company’s current projects and technology before another company develops similar therapeutic platform technologies.

In June 2014, as discussed below the Financial Accounting Standards Board issued new guidance that removed all incremental financial reporting requirements from U.S. GAAP for development stage entities. The Company early adopted this new guidance effective June 30, 2014, as a result of which all inception-to-date financial information and disclosures have been omitted from this report.

Recently Issued Accounting Pronouncements

Accounting Standards Update No. 2014-10, *Development Stage Entities (Topic 915): Elimination of Certain Financial Reporting Requirements, Including an Amendment to Variable Interest Entities Guidance in Topic 810, Consolidation* removes all incremental financial reporting requirements for development stage entities, including the removal of reporting of the cumulative results of operations and cash flows for the period from inception to the end of the current period. The update is effective for the first annual period beginning after December 15, 2014. Early adoption is permitted, and the Company has decided to adopt this change effective with its form 10-Q filing for the period ending June 30, 2014.

Accounting Standard Update No. 2014-12, *Compensation – stock* requires that a performance target that affects vesting and that could be achieved after the requisite service period should be treated as a performance condition that affects vesting, rather than a condition that affects the grant-date fair value. The effective date will be for fiscal years, and interim periods within those years, beginning after December 15, 2015 for all entities. Early adoption is permitted. The Company is considering the effect of this FASB issuance, on the financial statements, and has decided not to early adopt at this time.

2. LIQUIDITY 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. 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.

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.

As of June 30, 2014, the Company had cash and cash equivalents of approximately \$1,402. During the six months ended June 30, 2014, the Company incurred a net loss of approximately \$9,567 and had negative cash flows from operating activities of approximately \$3,633. In addition, the Company had an accumulated deficit of approximately \$36,651 at June 30, 2014. 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.

At June 30, 2014, the Company was in technical default on certain convertible notes with an aggregate principal balance outstanding of approximately \$85, which was due prior to June 30, 2014.

3. 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 Condensed Consolidated Statement of Operations for the three and six months ended June 30, 2013.

	Three Months Ended June 30,		Six Months Ended June 30, 2013	
	2013		As Reported	As Restated
	As Reported	As Restated		
Operating loss	(1,304)	(1,304)	(3,189)	(3,189)
Non-operating income (loss)	404	107	(569)	(2,646)
Net loss	(900)	(1,197)	(3,758)	(5,835)
Net loss per common share, basic and diluted	(0.00)	(0.00)	(0.01)	(0.02)

4. BALANCE SHEET DETAILS

Deferred funding fees:

	Period Ended	
	June 30, 2014	December 31, 2013
Total deferred funding fees	\$ 150	\$ 150
Amortization	(147)	(41)
Net deferred funding fees	<u>\$ 3</u>	<u>\$ 109</u>

Accrued expenses:

	Period Ended	
	June 30, 2014	December 31, 2013
Accrued compensation and related benefits	\$ 231	\$ 266
Series D convertible preferred dividend payable	26	26
Total	\$ 257	\$ 292

Related party liabilities:

	Period Ended	
	June 30, 2014	December 31, 2013
Promissory note	\$ 222	\$ 222
Accrued interest	28	26
Total	\$ 250	\$ 248

This promissory note dated March 5, 2008 is due and payable March 5, 2015 and carries an annual interest rate of 2%. At the option of the Company, the note and the accrued interest owed can be converted to the common stock of the Company based on the closing price on the day of the conversion as quoted on the exchange on which the Company's common stock is listed. The conversion price as at June 30, 2014 was \$0.1044 and would convert to approximately 2,396,000 shares.

5. FAIR VALUE MEASUREMENTS

The Company's financial assets and liabilities that are measured at fair value on a recurring basis as of June 30, 2014 and December 31, 2013, by level within the fair value hierarchy, are as follows:

Fair Value Measurements at June 30, 2014

	Level 1	Level 2	Level 3	Total
Derivative Liability	\$ —	\$ —	\$ 325	\$ 325

Fair Value Measurements at December 31, 2013

	Level 1	Level 2	Level 3	Total
Derivative Liability	\$ —	\$ —	\$ 5,859	\$ 5,859

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. The following table provides a summary of changes in the fair value of the Company's Level 3 financial liabilities from December 31, 2013 to June 30, 2014:

The weighted average Black-Scholes inputs associated with the conversion of 8% senior convertible debentures is as follows:

	For the Three Months Ended,		Total
	31-Mar-14	June 30, 2014	
Number of shares issued (000 omitted)	77,406	4,567	81,973
Debt principal	\$ 2,995	\$ 174	\$ 3,169
Fair value of debt at conversion	\$ 4,784	\$ 277	\$ 5,061
Exercise Price	\$ 0.04	\$ 0.04	
Volatility	134%	90%	
Risk-free Rate	0.07%	0.04%	
Contractual Life	0.6	0.25	
Dividend Yield	0.00%	0.00%	

The weighted average Black-Scholes inputs associated with the valuation of 8% senior convertible debentures is as follows:

	As at	
	31-Mar-14	June 30,2014
Exercise Price	\$ 0.04	\$ 0.04
Volatility	133%	860%
Risk-free Rate	0.07%	0.04%
Contractual Life	0.4	0.3
Dividend Yield	0.00%	0.00%

	Derivative Liability
December 31, 2013	\$ 5,859
Conversion of 8% senior convertible debentures to common stock ⁽¹⁾	(4,784)
Change in fair value	(666)
March 31,2014	409
Conversion of 8% senior convertible debentures to common stock ⁽²⁾	(277)
Change in fair value	193
June 30, 2014	<u>\$ 325</u>

- (1) The \$4,784 was included with the debt discount of \$1,693 in the statement of equity as result of the conversions of the convertible debt.
- (2) The \$277 was included with the debt discount of \$47 in the statement of equity as result of the conversions of the convertible debt.

6. NET LOSS PER SHARE

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

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2014	2013 (Restated)	2014	2013 (Restated)
Numerator				
Net loss	\$ (4,025)	\$ (1,197)	\$ (9,567)	\$ (5,835)
Preferred stock dividend	26	—	52	—
Net loss attributable to common stockholders	\$ (4,051)	\$ (1,197)	\$ (9,619)	\$ (5,835)
Denominator				
Weighted average shares outstanding during the period:				
Common stock - basic	734,023,717	397,175,440	682,657,535	380,084,393
Common shares equivalents	—	—	—	—
Common stock - diluted	<u>734,023,717</u>	<u>397,175,440</u>	<u>682,657,535</u>	<u>380,084,393</u>
Net loss per share	<u>\$ (0.01)</u>	<u>\$ (0.01)</u>	<u>\$ (0.01)</u>	<u>\$ (0.02)</u>

Potentially dilutive securities excluded from the computation of basic and dilutive net loss per share are as follows:

Outstanding time-based common stock options ⁽¹⁾	14,443,000	-(2)
Outstanding performance-based and market-based common stock options ⁽¹⁾	4,000,000	-(2)
Outstanding time-based preferred stock options ⁽¹⁾	2,488,000	-(2)
Warrants ⁽¹⁾	67,776,000	-(2)
Related party liability ⁽¹⁾	2,396,000	-(2)
Convertible promissory note(s) ⁽¹⁾	4,725,000	-(2)
8% Senior convertible debentures ⁽¹⁾	4,418,000	-(2)
Convertible preferred stock ^{(1) (3)}	44,061,000	-(2)

(1) The impact of time-based, performance-based and market-based stock options, time-based restricted stock units, warrants, the convertible notes, the 8% senior convertible debentures, 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 as of June 30, 2013 was approximately 85,000,000.

(3) Includes convertible preferred Series C and D.

7. INTANGIBLE ASSETS

The following table summarizes our intangible assets:

	Period Ended	
	June 30, 2014	December 31, 2013
Intangible assets:		
Intellectual properties	\$ 1,684	\$ 681
Accumulated amortization	(123)	(70)
Total intangible assets net	<u>\$ 1,561</u>	<u>\$ 611</u>

These intellectual properties costs will be amortized over the expected remaining useful lives. As of June 30, 2014, amortization expense for the next five years is expected to be as follows:

2014 (remaining six months)	\$ 65
2015	128
2016	128
2017	128
2018	128
thereafter	984
Total	<u>\$ 1,561</u>

Asset purchase agreement with Memory Dx, LLC

On April 29, 2014, the Company entered into an asset purchase agreement (“MDx Purchase Agreement”) with Memory Dx, LLC (“MDx”), pursuant to which the Company purchased all of the assets of MDx, including all right, title and interest in the LymPro Technology, (as defined in the MDx Purchase Agreement). Such assets include all intellectual property, owned by MDx, subject to certain exclusions as further described in the MDx Purchase Agreement.

As consideration for transfer of the assets, the Company agreed to pay to MDx (i) \$50 upon execution of the MDx Purchase Agreement, (ii) \$50 upon the date 60 days after execution of the MDx Purchase Agreement, and (iii) \$50 on the date 120 days after execution of the MDx Purchase Agreement. Additionally, the Company agreed to issue to MDx upon delivery of the assets, 1,500,000 shares of the Company’s common stock and provide MDx with piggy-back registration rights as it relates to such shares.

Contingent upon (i) the Company entering into a direct licensing agreement with the University of Leipzig (“Leipzig”) pursuant to which Leipzig would grant the Company a direct license to certain assets now licensed to MDx by Leipzig, and (ii) MDx terminating the license agreement it currently holds with Leipzig as it relates to such licensed assets with the Company’s prior written consent, the Company has agreed to issue to MDx 6,500,000 shares of the Company’s common stock and will provide MDx with piggy-back registration rights as it relates to such shares. The previous laboratory services agreement entered into between Amaranthus and MDx on April 2, 2013 was terminated following execution of the MDx Purchase Agreement.

8. 8% SENIOR CONVERTIBLE DEBENTURES

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	
				June 30, 2014	December 31, 2013
10/2/2013	10/2/2014	8.0%	Variable conversion price currently at \$0.04	\$ 167	\$ 1,789
			Variable conversion price, currently at		
9/6/2013	9/6/2014	8.0%	\$0.04	-	1,544
Sub total				167	3,333
Discount				(43)	(2,401)
Current portion of 8% convertible promissory notes, net				\$ 124	\$ 932

During the six months ended June 30, 2014 approximately \$3,274, consisting of approximately \$3,166 of debentures and approximately \$108 of accrued interest of the 8% senior convertible debentures, converted to 81,973,400 shares of common stock of the Company. Additionally, \$1,787 of the 8% senior convertible debentures related debt discount was reclassified from liability to additional paid in capital.

9. 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	
				June 30, 2014	December 31, 2013
6/5/2013	12/2/2013	6.0%	Fixed at \$0.02	-	20
11/4/2012	5/3/2013	6.0%	Fixed at \$0.01	-	10
8/23/2012	2/19/2013	6.0%	Fixed at \$0.015	50	50
11/2012	On Demand	None	Refundable excess payment	-	1
6/6/2011	6/6/2013	5.0%	Variable at \$0.04	10	10
4/11/2011	4/11/2013	5.0%	Variable at \$0.04	25	25
5/1/2011	5/1/2013	5.0%	Fixed at \$0.10	-	4
4/1/2011	4/1/2013	5.0%	Fixed at \$0.10	-	4
Total convertible promissory notes				\$ 85	\$ 124

Convertible notes converted to common stock or paid

During the six months ended June 30th, 2014 in aggregate approximately \$30 in notes and \$2 in accrued interest were converted into approximately 2,159,000 shares of common stock.

During the six months ended June 30th, 2014 in aggregate approximately \$8 in notes and \$1 in accrued interest were paid in full to the note holders

Convertible notes in default

At June 30, 2014, the Company was in technical default on certain convertible promissory notes with an aggregate principal balance outstanding of approximately \$85, which was due prior to June 30, 2014. The company is working with the note holders to convert.

10. DEMAND PROMISSORY NOTE

On February 14, 2014, the Company executed a Demand Promissory Note payable to Dominion Capital, LLC in the amount of \$500 at an annual interest rate of 12% compounded monthly until the note is repaid. On March 12, 2014, the Company elected to extend the maturity of the Note from March 14, 2014 to August 14, 2014. On August 14, 2014 the note holder agreed to extend the due date thirty days for a consideration of \$10.

11. COMMITMENTS AND CONTINGENCIES

Commitments:

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 approximately \$7 per month.

Commencing August 2014 the Company will lease new office facilities in San Francisco under a twenty nine month sublease with Stamats Communications for an average monthly amount average monthly rental of \$12 plus an additional monthly \$9 for basic operating costs

Rent expense for the six months ended June 30, 2014 and 2013 was approximately \$42 and \$12, respectively.

Research Agreements —

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 (refer to Note INTANGIBLE ASSETS). The Company agreed to a payment commitment of \$450 at a minimum annual rate of \$150, 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.

Pursuant to the December 12, 2013 license agreement between the Company and the University of Massachusetts, the Company is required to pay an annual license maintenance fee of \$15 as long as the agreement remains in effect and the related patents remain valid. The Company is also obligated to reimburse the university for all patent costs incurred that are related to the licensed patents for the duration of the agreement term.

The Company and The Washington University ("WashU") entered into a sponsored research agreement (the "Agreement") whereby the Company is required to pay a total amount of \$120 for an employee of WashU to perform certain research utilizing a proprietary compound of the Company's (the "Materials"), subject to certain terms and restrictions as further described in the Agreement.

Technical Acquisition —

Pursuant to the MDx Purchase Agreement and contingent upon (i) the Company entering into a direct licensing agreement with the University of Leipzig ("Leipzig") pursuant to which Leipzig would grant the Company a direct license to certain assets now licensed to MDx by Leipzig, and (ii) MDx terminating the license agreement it currently holds with Leipzig with the Company's prior written consent, the Company has agreed to issue to MDx 6,500,000 shares of the Company's common stock and will provide MDx with piggy-back registration rights as it relates to such shares.

Contingencies:

On January 10, 2014, the Company entered into a license agreement ("PGI License Agreement") with PGI Drug Discovery, LLC ("PGI"). Pursuant to the terms of the agreement, the Company agreed to pay PGI up to an aggregate of \$4,000 in development milestones through NDA submission. Milestone based payments payable by the Company under the PGI License Agreement are as follows: (i) \$1,000 upon successful completion of the first Phase 2b clinical study, and (ii) \$3,000 million upon submission of a New Drug Application with the United States Food and Drug Administration or a comparable submission outside of the United States.

Pursuant to the LPC Purchase Agreement, the Company may be required to issue up to 3,500 shares of common stock to LPC on a pro rata basis if and when the Company utilizes funding available under the agreement.

Pursuant to the MDx Purchase Agreement and contingent upon (i) the Company entering into a direct licensing agreement with the University of Leipzig (“Leipzig”) pursuant to which Leipzig would grant the Company a direct license to certain assets now licensed to MDx by Leipzig, and (ii) MDx terminating the license agreement it currently holds with Leipzig with the Company’s prior written consent, the Company has agreed to issue to MDx 6,500,000 shares of the Company’s common stock and will provide MDx with piggy-back registration rights as it relates to such shares.

Pursuant to the December 12, 2013 license agreement between the Company and the University of Massachusetts, the Company is obligated to pay the university certain amounts in the event certain events occur or milestones are achieved. Milestones to be paid under the agreement are as follows: (i) \$50 upon first human dosing, (ii) \$75 upon initiation of first Phase 2 clinical trial, (iii) \$100 upon initiation of first Phase 3 clinical trial, and (iv) \$500 upon first product approval in the United States. Following commercial launch, the Company is required to pay a royalty to the university equal to 2% of net sales, as defined under the agreement, subject to certain royalty minimums ranging from \$125 to \$500 per year. The Company is also obligated to pay to the university 10% of any sub-license income generated under the agreement.

12. COMMON STOCK WARRANTS

Stock Warrants

The Company issued 83,333,251 Warrants pursuant to Securities Purchase Agreement with certain investors entered in September 2013 (the “Debt 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. On February 4, 2014, the Company registered these warrants with the SEC.

On March 7, 2014, the Company accepted elections by warrant holders to exercise certain warrants in the aggregate amount of 60,000,000 shares of common stock for gross proceeds of \$3,600. 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 any time 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 actual listing of the common stock on an exchange. The holders of the New Warrants 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.

In the three months ended June 30, 2014, a warrant holder exercised 2,777,775 warrants to purchase 2,777,775 shares of the Company’s common stock at the exercise price of \$.06 per share for a total amount of approximately \$167.

In accordance with ASC 815-40-25-10 the Company determined that the appropriate accounting treatment of the New Warrants is to determine the fair value of the warrant and to record the fair value of the warrant as a loss upon Issuance of Warrants in the Other income (expense) section of the statement of operations along with a credit to Additional paid-In capital. The fair value was determined to be approximately \$3,867, using the Black-Scholes model, which management believes approximates the fair value using the binomial lattice model with the following weighted average assumptions at issuance:

Annualized volatility ⁽¹⁾	305%
Contractual term	5.0
Risk-free investment rate	1.65%
Dividend yield	0.0%

(1) - The Company has three years of trading history that was utilized in computing the annualized volatility as of the date of issuance.

The following table summarizes the Company's warrant activity for the six months ended June 30, 2014.

	Number of Warrants	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term
Outstanding warrants as of December 31, 2013	84,553,306	0.06	2.2
Exercised	(62,777,774)	0.06	2.2
Issued	45,000,000	0.12	4.7
Outstanding warrants as of June 30, 2014	66,775,532	0.10	3.9

13. COMMON STOCK PRIVATE PLACEMENTS

On March 7, 2014, the Company entered into an equity financing agreement ("LPC Purchase Agreement") with Lincoln Park Capital Fund LLC ("LPC") whereby LPC is obligated to purchase up to \$20,000 of the Company's common stock from time to time over a 30 month period, as directed by the Company and subject to certain requirements, restrictions and limitations. Under the agreement, the per share purchase price will be the lesser of (1) the lowest sale price of common stock on the purchase date and (2) the average of the three lowest closing purchase prices during the 10 consecutive business days prior to the purchase date. However, LPC is not obligated to purchase shares from the Company on any date that the closing price of the common stock is below \$0.04, subject to adjustment upon the occurrence of certain stock related events. The Company may also request that LPC purchase shares under an accelerated purchase notice whereby the per share purchase price will be the lower of (i) 94% of a volume weighted average price calculation as determined under the agreement or (ii) the closing price of the common stock on the accelerated purchase date.

In consideration for entering into the agreement, the Company agreed to issue 9,500,000 shares of common stock to LPC, 6,000,000 of which were issued upon entering into the agreement and 3,500,000 of which are contingently issuable on a pro rata basis as the Company utilizes the financing arrangement. The agreement will automatically terminate upon the earliest of 30 months or upon full utilization of the purchase commitment.

Pursuant to the agreement, in the three months ended March 31, 2014 the Company sold an initial 4,000,000 shares to LPC for an aggregate gross purchase price of \$400. The fair value of the 6,000,000 shares provided to LPC was approximately \$516 and was treated as a deferred funding fee. \$400 was considered a placement fee against the \$400 raised pursuant to execution of the LPC Purchase Agreement. The remaining \$116 of deferred funding fees will be offset against future capital raises.

Also pursuant to the agreement, during the three months ended June 30, 2014, the Company sold an additional 1,500,000 shares for approximately \$146 and issued an additional 25,463 commitment fee shares valued at \$2 to LPC. The \$2 commitment fee along with the balance of the upfront deferred commitment fees of \$116 from the original transaction in March 2014, for a total of \$118, was charged to additional paid in capital in the three months ended June 30, 2014.

14. STOCK OPTION PLANS

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 38,242,127 options, including 10,000,000 the Board added to the plan in January, of incentive stock options, nonqualified stock options, or stock awards to eligible persons, including employees, nonemployees, and 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, 2013	6,941,288	0.05	9.0
Options granted (weighted-average fair value of \$0.08)			
Employee	9,200,000	0.08	9.8
Non-Employee	3,301,323	0.08	9.8
Options cancelled	(1,000,000)	—	—
Options Exercised	—	—	—
Balance – June 30, 2014	<u>18,442,611</u>	0.07	9.2
Options vested as of June 30, 2014	<u>9,024,622</u>		

The 9,200,000 shares granted to employees include 8,000,000 shares granted to the Company's new Chief Financial Officer, 4,000,000 of which are time-based and vest 25 percent upon grant and 1/36 per month thereafter during continued service; 2,000,000 of which are performance-based and vest upon continued service and achievement of a specific goal; and 2,000,000 of which are market-based and vest upon continued service and the Company's achievement of certain stock price targets. All of the 8,000,000 shares are at an exercise price of \$0.0775 and were granted on March 31, 2014.

During the six months ended June 30, 2014, the company granted 2,301,323 net options (granted 3,301,323 less cancelled 1,000,000) to non-employees, resulting in an approximate expense of \$84.

During the six months ended June 30, 2014, the Company granted stock options and awards that were greater than the shares authorized, resulting in a deficit of shares available in the Plan of 3,377,705 as of June 30, 2014. On July 3, 2014 the Board approved an increase in the number of shares subject to the plan to 46, 119,832 shares.

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. These options currently vest over two or three 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:

	Preferred Stock Options Outstanding	Weighted Average Exercise Price	Outstanding Preferred Options Weighted Average Remaining Contractual Term
Balance – December 31, 2013	2,287,500	0.47	8.5
Options granted (weighted-average fair value of \$1.61)			
Employee	200,000	2.21	9.8
Non-Employee	—	—	—
Options cancelled	—	—	—
Balance – June 30, 2014	<u>2,487,500</u>	<u>0.61</u>	<u>8.6</u>
Preferred options vested as of June 30, 2014	<u>1,650,130</u>		

Stock-based compensation expense for all plans is classified in the statements of operations as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2014	2013	2014	2013
Research and development	\$ 108	\$ 19	\$ 288	\$ 302
General and administrative	165	70	187	296
Total	<u>\$ 273</u>	<u>\$ 89</u>	<u>\$ 475</u>	<u>\$ 598</u>

At June 30, 2014, there was a total of approximately \$1,043 of unrecognized compensation cost, net of estimated forfeitures of zero, as the Company has not experienced any forfeitures to date, related to non-vested stock option awards, which is expected to be recognized over a weighted-average period of approximately 2.5 years.

The fair value of the Company's stock-based awards during the six months ended June 30, 2014 and 2013 were estimated using the Black-Scholes option-pricing model with the following assumptions:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2014	2013	2014	2013
Weighted-average volatility	302%	*%	89%-302%	108%
Weighted-average expected term	5.75	*	5-5.75	5
Expected dividends	0%	*%	%	0%
Risk-free investment rate	1.96%	*%	1.73%-1.96%	0.5%

* There were no options granted in the three months ended June 30, 2013

15. SERIES D PREFERRED STOCK

The Company obtained approval from the Series D stockholder and filed with the state of Nevada to amend the terms of its series D preferred stock to remove the feature by which stockholder could require redemption of the stock at cost. Accordingly, since the stock now contains mainly equity-like features, the Company changed the classification of the stock on its balance sheet from temporary equity to permanent equity within stockholders' equity (deficit) as of June 30, 2014.

16. RELATED-PARTY TRANSACTIONS

On June 30, 2014 Gerald E. Commissiong, a member of the Board of Directors, President and Chief Executive Officer, converted his 8% Senior Convertible Debenture and related accrued interest in the amount of \$6 into 147,265 shares of restricted common stock.

On June 30, 2014 John Commissiong, a member of the Board of Directors and Chief Scientific Officer, converted his 8% Senior Convertible Debenture and related accrued interest in the amount of \$6 into 147,265 shares of restricted common stock.

17. SUBSEQUENT EVENTS

Common Stock Private Placement

In July 2014, the Company exercised its rights under the LPC Purchase Agreement to sell 8,000,000 shares to LPC for a total of \$1,235. As required by the agreement, the Company issued 216,160 commitment fee shares valued at \$34 to LPC, which will be charged to additional paid in capital.

Call of Warrants

In July 2014, the Company called its outstanding warrants to purchase shares of its common stock at an exercise price of \$0.06 per share issued in the Company's private placement offering completed on September 3, 2013 and September 26, 2013 (the "Original Warrants"). There were 20,138,810 outstanding Original Warrants. Pursuant to the terms of the Original Warrants, the Company will honor any exercise notices it receives before the 10 trading after the call notice is received by the holders. If the Original warrants are exercised the Company will receive an aggregate of approximately \$1,208. In August 2014 a warrant holder exercised 8,333,333 warrants for an aggregate amount of approximately \$500.

Conversion of Debentures

In July 9, 2014, the Company also met the conditions to force the conversion of its outstanding 8% Original Issue Discount Senior Convertible Debentures due September 6, 2014 and October 1, 2014 (the "Debentures"). As of the date hereof, the Company has a principal aggregate amount of \$167 Debentures outstanding. The Company provided notice to the holder of the Debentures to force such conversion, on July 19, 2014 the debenture holder converted and the Company issued 4,500,009 shares of its common stock to satisfy the conversion.

Stock Option Grants

During the month of July 2014 four employees signed their agreements, eliminating the contingency and causing the deficit in shares available for grant (see note STOCK OPTION PLANS) to increase to 6,877,705. On July 3, 2014 the Board approved an increase in the number of shares subject to the plan to 46,119,832 shares.

Sublease of New Offices

In August 2014, the Company subleased new office facilities at 665 Montgomery Street, San Francisco, Ca Suite 900 with Stamats Communications commencing August 1, 2014 and ending November 30, 2016 at an average monthly rental of \$12 plus an additional monthly \$9 for basic operating costs.

Proxy Statement

In August 8, 2014 the Company filed a Preliminary Proxy Statement concerning its Notice of Annual Meeting of Stockholders.

Research Agreement

On August 5, 2014, the Company entered into a sponsored research agreement (the "Agreement") with the Buck Institute for Research on Aging pursuant to which Dr. Heinrich Jasper shall perform certain research utilizing Mesencephalic-Astrocyte-derived Neurotrophic Factor, subject to certain terms and restrictions as further described in the Agreement.

Pursuant to the Agreement, the Company shall provide financial support for the research plan, which is further described in the in the form of four quarterly payments of \$75, based upon the budget set forth in the Agreement.

License Agreement

The Company entered into a license agreement with University of Miami ("UNIVERSITY") effective August 14, 2014, for an exclusive license for the Patent Rights to certain inventions of its employee, Rong Wen, MD, PhD, which the UNIVERSITY owns all rights and title to. In consideration for this exclusive license the Company will pay the UNIVERSITY certain fees and royalties

Fees:

1. \$10 within thirty (30) days of the Effective Date of this Agreement;
2. \$10 on the second (2nd) anniversary;
3. \$15 on the third (3rd) anniversary;
4. \$25 on the fourth (4th) through seventh (7th) anniversary;

5. \$50 on the eighth (8th) through tenth (10th) anniversaries; and
6. \$ 75 on the eleventh (11th) anniversary and every anniversary thereafter.

Such annual fee is creditable towards any other consideration, including royalty and milestone payments that are, as set forth herein, due to the UNIVERSITY by the Company.

Royalties:

Running royalty in an amount equal to three percent (3%) of the annual Net Sales of the Product(s) used, leased or sold by or for the Company, its Affiliates, or its subsidiaries ("Running Royalty"). In the event the Company is required to pay royalties to a third party or third parties for the same Product or Process as licensed under this Agreement to avoid potential infringement of third party patent rights as a result of sales of Products, then the Company may reduce the Running Royalty by fifty cents (\$0. 50) for each one dollar (\$1.00) in royalties which the Company is obligated to pay to a third party or third parties under such licenses, provided however, that the royalties payable to UNIVERSITY under this section shall not be reduced to less than two percent (2%) of annual Net Sales of the Product(s) used, leased or sold by or for the Company or its subsidiaries. If, in any one calendar year, the Company is not able to fully recover its fifty percent (50%) portion of the payments due to a third party, it shall be entitled to carry forward such right of off-set to future calendar years with respect to the excess amount.

2014 Stock Option Plan

On August 6, 2014, the Company adopted the 2014 Stock Option Plan and has reserved 154,000,000 shares of the common stock of the Company for issuance within this plan.

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

Forward-Looking Statements

Amarantus Bioscience Holdings, Inc. 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 these 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.

Overview

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 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.

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.

The Three Months Ended June 30, 2014 compared to Three Months Ended June 30, 2013

During the three months ended June 30, 2014 and 2013, we generated no revenue.

Research and development costs for the three months ended June 30, 2014 increased \$1,166 to \$1,640 from \$474 for the three months ended June 30, 2013 an extensive amount of pre-clinical and clinical work as the company advances the development of its products and the expensing of the clinical materials acquired in the first quarter.

General and administrative expenses for the three months ended June 30, 2014 increased \$1,271 to \$2,101 from \$830 for the three months ended June 30, 2013 primarily due an increase in employee compensation related expenses, increases in legal patent and audit related expenses, and increased business development expenses.

Other income (expense) for the three months ended June 30, 2014 decreased \$391 to an expense of \$284 from an income of \$107 for the three months ended June 30, 2013. Interest expense decreased \$197 to \$71 from \$268 for the three months ended June 30, 2013 primarily due to debt conversion to equity.

Net loss for the three months ended June 30, 2014 was \$4,025 as compared to a net loss of \$1,197 for the three months ended June 30, 2013. Stock based compensation from grants under the 2008 Stock Plan and the 2012 Series B Convertible Preferred Stock Option Plan accounted for \$273 of the \$4,025 net loss for the three months ended June 30, 2014 and \$89 of the \$1,197 net loss for the three months ended June 30, 2013.

The Six Months Ended June 30, 2014 compared to Six Months Ended June 30, 2013

During the six months ended June 30, 2014 and 2013, we generated no revenue.

Research and development costs for the six months ended June 30, 2014 increased \$1,019 to \$2,157 from \$1,138 for the six months ended June 30, 2013 primarily due to debt conversion to equity.

General and administrative expenses for the six months ended June 30, 2014 increased \$1,169 to \$3,220 from \$2,051 for the six months ended June 30, 2013 primarily due to an increase in employee compensation related expenses, increases in legal patent and audit related expenses, and increased business development expenses.

Other income (expense) for the six months ended June 30, 2014 increased \$1,544 to an expense of \$4,190 from an expense of \$2,646 for the six months ended June 30, 2013. Interest expense decreased \$432 to \$709 from \$1,141 for the six months ended June 30, 2013 primarily due to lower financing costs on new debt and debt conversion to equity. Loss on issuance of warrants increased \$3,867 from \$0.

For the six months ended June 30, 2014 there is a \$4,533 charge related to the issuance of new warrants offset by a gain of \$666 in change in fair value of derivative liability.

Net loss for the six months ended June 30, 2014 was \$9,567 as compared to a net loss of \$5,835 for the six months ended June 30, 2013. Stock based compensation from grants under the 2008 Stock Plan and the 2012 Series B Convertible Preferred Stock Option Plan accounted for \$475 of the \$9,567 net loss for the six months ended June 30, 2014 and \$598 of the \$5,835 net loss for the six months ended June 30, 2013.

Inflation adjustments have had no material impact on the Company.

Liquidity and Capital Resources

As of June 30, 2014, the Company had total current assets of \$1,801 consisting of \$1,402 in cash and cash equivalents, \$146 in receivable from sale of common stock \$250 in prepaid expenses and other current assets, and \$3 in deferred funding fees. As of June 30, 2014, the Company had current liabilities in the amount of \$3,599, consisting of:

Accounts payable	\$	2,006
Related party liabilities and accrued interest	\$	250
Accrued expenses	\$	257
Accrued interest	\$	52
Demand promissory note	\$	500
8% Senior convertible debentures, net of discount	\$	124
Convertible promissory notes	\$	85
Derivative liability	\$	325

As of June 30, 2014, the Company had a working capital deficit in the amount of \$1,798 compared to a deficit of \$7,291 at December 31, 2013.

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

	Six Months Ended June 30,	
	2014	2013 (restated)
Net cash (used in) operating activities	\$ (3,633)	\$ (1,646)
Net cash (used in) investing activities	(656)	(34)
Net cash provided by financing activities	4,658	1,590
Net increase (decrease) in cash and cash equivalents	\$ 369	\$ 67

Since inception, the Company has financed cash flow requirements through the issuance of common stock and the exercise warrants and loans. As of June 30, 2014, the Company had \$1,402 in cash and cash equivalents. Since June 30, 2014 the Company has raised approximately \$1,900 thru the sale of common stock and call of warrants. The Company still has an additional \$18,000 of equity capital available under the financing facility with Lincoln Park Capital Fund LLC, and an additional \$700 from the anticipated call of warrants. Based upon the cash used for operations for the 6 months ended June 30, 2014 the Company would have sufficient liquidity for approximately 2 years.

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 company engaged in biotechnology research and development. We have suffered recurring losses from operations since inception, we have a positive working capital but have generated negative cash flow from operations. There is substantial doubt about our ability to continue as a going concern.

Item 4. Controls and Procedures

We carried out an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) as of June 30, 2014. This evaluation was carried out under the supervision and with the participation of Gerald Commissiong, our Principal Executive Officer, and Marc E. Faerber, our Principal Accounting Officer. Based upon that evaluation, our Chief Executive Officer and Principal Accounting Officer concluded that, as of June 30, 2014, our disclosure controls and procedures were ineffective as of the end of the period covered, due to the following material weaknesses which are indicative of many small companies with small staff: (i) inadequate segregation of duties and effective risk assessment; and (ii) insufficient written policies and procedures for accounting and financial reporting with respect to the requirements and application of both United States generally accepted accounting principles and Securities and Exchange Commission guidelines. Management anticipates that such disclosure controls and procedures will not be effective until the material weaknesses are remediated. We will be unable to remediate the material weakness in our disclosure controls and procedures until we can hire additional employees. Management will be addressing the internal controls issues in the coming months.

PART II - OTHER INFORMATION

Item 1. Legal Proceedings

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

Item 2. Unregistered Sales of Equity Securities

On June 9, 2014, the Company issued 358,998 shares of the Company's restricted common stock to PGI Drug Discovery, LLC as payment per the terms of a License Agreement entered into on January 14, 2014. 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 4a(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On June 27, 2014, the Company issued 1,000,000 shares of the Company's restricted common stock to Joseph Rubinfeld as payment services rendered.. 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 4a(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On June 27, 2014, the Company issued 1,000,000 shares of the Company's restricted common stock to The Brewer Group Inc. as payment per the terms of an advisory contract entered into on June 19, 2014. 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 4a(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

On June 27, 2014, the Company issued 146,484 shares of the Company's restricted common stock to Jamaal Brown. as payment per the terms of a consulting contract entered into on June 23, 2014. 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 4a(2) promulgated thereunder due to the fact that the issuance did not involve a public offering

On July 1, 2014, the Company issued 866,218 shares of the Company's restricted common stock to Dominion Capital, LLC as a dividend payment on the Series D convertible 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 4a(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

The foregoing 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(a)(2) promulgated thereunder due to the fact that the issuance did not involve a public offering.

Item 3. Defaults upon Senior Securities

None

Item 6. Exhibits

Exhibit Number	Description of Exhibit
10.1	Sponsored Research Agreement dated June 19, 2014 between Amaranthus BioScience Holdings, Inc. and The Washington University
10.2	Option Agreement between Amaranthus BioScience Holdings, Inc. and Universitat Leipzig dated as of July 31, 2014
10.3	License Agreement between Amaranthus BioScience Holdings, Inc. and PGI Drug Discovery LLC dated January 10, 2014. *

- 31.1 Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 302 of the Sarbanes- Oxley Act of 2002
- 31.2 Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 302 of the Sarbanes- Oxley Act of 2002
- 32.1 Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
- 32.2 Certification of Principal Accounting Office pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
- 101.INS XBRL Instance Document
- 101.SCH XBRL Schema Document
- 101.CAL XBRL Calculation Linkbase Document
- 101.DEF XBRL Definition Linkbase Document
- 101.LAB XBRL Label Linkbase Document
- 101.PRE XBRL Presentation Linkbase Document
- * Confidential information in this exhibit has been omitted and filed separately with the SEC pursuant to a confidential treatment request.

SIGNATURES

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

Amarantus Bioscience Holdings, Inc .

Date: August 14, 2014

By: /s/ Gerald E. Commissiong
Gerald E. Commissiong
Title: Chief Executive Officer and Director
(Principal Executive Officer)

By: /s/ Robert E. Farrell
Robert E. Farrell
Title: Chief Financial Officer
(Principal Financial Officer)

SPONSORED RESEARCH AGREEMENT

THIS **SPONSORED RESEARCH AGREEMENT** (the "Agreement") is effective as of the date of the last signature herein (the "Effective Date"), by and between:

The Washington University
One Brookings Drive

St. Louis, MO 63130

an academic institution
("Institution")

and

Amarantus Bioscience Holdings, Inc.
953 Indiana Street,
San Francisco, CA 94107

a Nevada corporation,
("Amarantus"),

WHEREAS, Fumihiko Urano, MD, PhD ("Investigator"), a full-time employee of Institution, desires to perform certain research using Amarantus' proprietary compound;

WHEREAS, Amarantus desires to support the costs of such research and to transfer to Investigator certain materials for the purpose of conducting the research.

NOW THEREFORE, in consideration of the foregoing premises and the mutual covenants set forth below, Amarantus and Institution hereby agree as follows:

1. **Research.** Institution, during the Term, agrees to undertake and perform a research project (the "Research") as described in the research plan attached as **Exhibit A** hereto (the "Research Plan") with the consent of and financial support from Amarantus. Investigator agrees to use reasonable efforts to perform the Research and will furnish the research staff, technical know-how, equipment, instruments, supplies and facilities necessary to carry out the Research. Investigator agrees that all work done on the Research will be duly recorded and evidenced in laboratory notebooks maintained by the Investigator and the persons working on the Research at Investigator's direction.
 2. **Funding.**
 - a. Amarantus will provide funding to Institution to support the performance of the Research in accordance with the budget set forth on **Exhibit B** (the "Budget"). Such funding will be provided in two (2) equal payments according to the following schedule:
 - (i) The first payment will be due thirty (30) days following Amarantus' receipt of a fully-executed copy of this Agreement.
 - (ii) The second and final payment will be made within thirty (30) days of Amarantus' receipt of Investigator's final written report following completion of the Research.
-

b. The total sum set forth in the Budget represents the maximum amount payable to Institution hereunder, unless agreed otherwise in writing by the parties. Such amount shall be paid on a fixed-price basis and all funds provided by Amarantus under this Agreement shall be solely used for the performance of the Research, except that Amarantus agrees that Institution will retain residual funds, if any, upon completion of the Research. Payments will be made by check, sent to:

Washington University
Sponsored Projects Accounting
Campus Box 1034
700 Rosedale Avenue
St. Louis, MO 63112-1408
FAX 314-935-4309

c. Amarantus acknowledges that Institution maintains the status of a nonprofit/tax exempt institution. While the parties do not anticipate that Amarantus will be required to withhold taxes from payments made under this Agreement, to the extent that any reporting/withholding may be required pursuant to applicable federal, state and local laws or regulations, Amarantus will report any payments to Institution and be allowed to withhold from Institution's payments any applicable taxes.

3. **Materials.**

a. The materials described in **Exhibit C** attached hereto (the "Materials") are provided by Amarantus to Institution to be used only in the Research. The Research shall be limited to investigational tests *in vitro* or in laboratory research animals.

b. If animal studies have been proposed, Investigator has considered *in vitro* approaches to the research and has followed the NIH guidelines regarding such work. No animals receiving the Materials in the Research (nor animal products derived therefrom) will be used for food purposes.

c. Upon receipt of the Materials, Investigator shall conduct the Research in strict accordance with all applicable laws, regulations and guidelines, including without limitation, those regulations and guidelines promulgated by the U.S. Food and Drug Administration and the U.S. Department of Agriculture and any other regulations and guidelines relating to ethical treatment of animals.

d. Institution agrees that it will not perform any experiments with the Materials, other than those required to complete the Research Plan, unless specifically agreed to in advance in writing by an authorized Amarantus representative. Institution understands that the Materials may have biological and/or chemical properties that are unpredictable and unknown at the time of transfer, that they are to be used with caution and prudence. ***The Institution agrees that while it is in possession of the Materials they shall not be used in humans under any circumstances.***

e. None of the Materials shall be used by persons who are not under Investigator's direct supervision or used outside of Investigator's laboratory.

f. Institution shall use the Materials solely for the purpose of conducting the Research and shall not attempt to reverse engineer, deconstruct, synthesize, chemically modify, analyze or in any way determine the structure or composition of the Materials.

g. The Materials are proprietary to Amarantus and Amarantus is and shall remain at all times the sole owner of the Materials. Institution shall not sell, transfer, disclose or otherwise provide access to the Materials, including any analogs, derivatives and/or reproducible portions thereto obtained as a consequence of conducting the Research, to any person or entity without the prior express written consent of Amarantus, except that Institution may allow access to the Materials to their employees or agents for the purpose of conducting the Research. Institution shall take all reasonable steps to ensure that such employees and agents will use the Materials in a manner that is consistent with the terms of this Agreement.

h. Upon completion or earlier termination of the Research, Institution shall, at Amaranthus' written directions and expense, return or dispose of any unused portions of the Materials. Any such disposal will conform to prescribed federal, state and local guidelines and will be certified to Amaranthus in writing by an authorized Institution representative.

4. **Reports.** Investigator shall provide Amaranthus with a detailed description of all tests and a copy of all results from any experiment carried out with the Materials within sixty (60) days after completion of each experiment. Subject to the provisions of Section 6 below, Amaranthus shall have the right to use such reports or descriptions for any purpose whatsoever. Investigator will provide an additional report upon termination of this agreement which discloses all Technical Material and all Inventions conceived or reduced to practice in relation to this agreement. All such reports shall set forth the technical progress made, identifying such problems as may have been encountered and establishing goals and objectives requiring further effort.

5. **Confidential Information.**

a. The parties acknowledge that, prior to and during the Term of this Agreement, the parties may disclose to one another scientific, technical, trade secret, business, or other information which is treated by the disclosing party as confidential ("Confidential Information"). Confidential Information shall specifically exclude Technical Materials. Each party shall maintain all Confidential Information provided by the other party in trust and confidence and shall not use such Confidential Information for any purpose other than to exercise its rights and perform its obligations under this Agreement. In addition, neither party shall publish, disseminate or otherwise disclose any Confidential Information of the other party to any third party without the written consent of the other party, except as provided below. Both parties agree that in order to ensure that each party understands which information is deemed to be confidential, all Confidential Information will be in written form and clearly marked as "Confidential," or if the Confidential Information is initially disclosed in oral or some other non-written form, it will be confirmed and summarized in writing and clearly marked as "Confidential" within thirty (30) days of disclosure, provided however that failure to so mark or summarize shall not alter the confidential status of such information if a reasonable person under similar circumstances would recognize, by the content and/or context of such disclosure, that the disclosure was intended as confidential. Each party may disclose and disseminate the other party's Confidential Information for the purposes of conducting the Research only to those employees or agents with a need to know, and only after those employees and agents have been advised of the confidential nature of such information, and who are bound by an obligation of confidentiality under terms substantially similar to and at least as protective of such Confidential Information as the terms of this Agreement.

b. The term "Confidential Information" shall not be deemed to include information which the receiving party can demonstrate by its contemporaneous written records:

(i) was known to the receiving party without confidentiality obligations from a source other than the disclosing party before the date of disclosure hereunder, or

(ii) is now, or becomes in the future, publicly available other than by breach of this Agreement by the receiving party, or

(iii) is lawfully disclosed to the receiving party on a non-confidential basis by a third party who is not obligated to the disclosing party or any other party to retain such Confidential Information in confidence, or

(iv) is independently developed by the receiving party without use or benefit of or reference to the disclosing party's Confidential Information, or

(v) is approved for release by written authorization of the disclosing party.

Any combination of features or disclosures shall not be deemed to fall within the foregoing exclusions merely because individual features are published or available to the general public or in the rightful possession of the receiving party unless the combination itself and principle of operation are published or available to the general public or are in the rightful possession of the receiving party without obligations of confidentiality.

c. Nothing in Section 5.a above shall prevent the receiving party from disclosing Confidential Information that is required by legal process to be disclosed by order of a court, government agency or the like having competent jurisdiction, provided that the receiving party (i) notifies the disclosing party as promptly as possible upon becoming aware of such requirement, (ii) discloses only such portion of such Confidential Information as is required to be so disclosed, (iii) cooperates reasonably with the disclosing party in seeking protective order(s) or injunctive relief to protect the confidentiality of such Confidential Information, at the disclosing party's expense, and (iv) the obligations in this Article 5 shall continue to apply to any Confidential Information that is disclosed to comply with such legal requirements.

d. Obligations of confidentiality under Section 5 shall survive and remain in effect for a period of three (3) years from the termination of this Agreement.

e. Upon completion or earlier termination of the Research, the receiving party shall return to the disclosing party all copies of Confidential Information in its possession, except that each party may retain one (1) copy of such information in its legal files, solely for the purpose of ascertaining the extent of its continuing obligations hereunder.

6. **Publication.** Amarantus recognizes that consistent with Institution's status as an educational institution and the principles of academic freedom, Institution requires that its researchers be free to publish the results of their research activities. Amarantus agrees that Investigator and other researchers engaged in the Research shall have the right to publish in journals, theses, dissertations, or other formats of their own choosing, and to present at symposia and national or regional professional meetings; the Technical Material (defined below) generated as a result of the Research. Amarantus further agrees that Investigator and other Institution researchers engaged in the Research will at all times have the first opportunity to publish such Technical Material, subject to the provisions of Sections 6.a and 6.b, below.

a. At least forty five (45) days in advance of the submission of such proposed publication or presentation to a journal, editor, or other third party, Institution or Investigator shall furnish Amarantus with copies of the proposed publication or presentation. The purposes for such prior submission are: (i) to provide Amarantus with the opportunity to review and comment on the contents of the proposed publication or presentation; (ii) to identify any Confidential Information to be deleted from the proposed publication or presentation; and (iii) to allow time for any patentable subject matter to be identified. Amarantus shall provide any comments to Institution or Investigator within forty five (45) days of receipt of the proposed publication or presentation. Institution and Investigator hereby agree to delete from the proposed publication any Confidential Information which Amarantus requests Institution or Investigator to delete. Amarantus personnel shall be acknowledged in accordance with customary scientific practice.

b. Amarantus shall have forty five (45) days after receipt of the proposed publication or presentation to object by written request sent to Institution to the proposed publication or presentation on the grounds that there is patentable subject matter that needs protection. In the event Amarantus makes such objection, the Institution, Investigators and other researcher(s) shall refrain from making such publication or presentation for such time as requested by Amarantus, but in any event no longer than forty five (45) days from the date of receipt of such objection by Institution, in order for patent application(s) directed to the patentable subject matter contained in the proposed publication or presentation to be filed with the United States Patent and Trademark Office and/or foreign patent office(s).

c. Notwithstanding any provision to the contrary, the publication of a patent application will not be prevented or delayed in order to preserve the opportunity for the Investigator to publish the Technical Material.

7. Data and Intellectual Property Rights.

a. "Technical Material" shall be defined as those data, results and reports generated in the course of performing the Research, but does not include any Inventions. All Technical Material conceived and reduced to practice arising out of the performance of the Research shall be jointly owned by the Parties.

b. In performing the Research, or otherwise using the Materials in accordance with the terms of this Agreement, either party may conceive or otherwise create ideas, improvements, inventions, techniques and other technology and associated intellectual property, whether or not patentable (collectively, "Inventions"). Ownership of Inventions, if any, shall be determined according to inventorship, which shall be determined according to U.S. law. Inventions conceived solely by Institution shall be solely owned by Institution ("Institution Inventions"). Institution shall promptly notify Amarantus of all such Institution Inventions. Inventions conceived solely by Amarantus shall be solely owned by Amarantus ("Amarantus Inventions").

c. Each party shall retain its rights to practice, enforce, license, assign, or otherwise exploit its undivided, one-half interest in any Joint Invention (defined below) or jointly owned Technical Materials without the consent of and without accounting to the other and each party hereby waives any right it may have under the laws of any country to require such approval, sharing or accounting. Neither party grants any rights to intellectual property existing as of the Effective Date or conceived or otherwise created after the Effective Date but not in the performance of the Research.

d. Amarantus and Institution hereby agree that all Inventions jointly conceived shall be jointly owned by Amarantus and Institution ("Joint Inventions"). Subject to any rights the U.S. Government may have as a result of funding aspects of the Research, Institution grants to Amarantus: (a) a non-exclusive, worldwide, royalty-free license to make, use, have made, sell, have sold, import Institution Inventions for any purpose, and (b) an exclusive option (the "Option") to obtain an exclusive, worldwide license, with the right to grant sublicenses, to make, use, sell, have made, have sold, offer to sell, and import under Institution's rights in Institution Inventions and Joint Inventions on terms to be negotiated in good faith between the parties. Institution shall disclose to Amarantus in writing and in detail all Institution Inventions and Joint Inventions promptly following the generation thereof. Amarantus may exercise the Option by sending written notice to Institution at any time within ninety (90) days following the receipt of a written disclosure from Institution describing in detail such Institution Invention (the "Option Period"). If Amarantus exercises the Option within the Option Period, then Institution and Amarantus will have a six (6) month period after exercise of the option within which the parties agree to negotiate diligently in good faith to determine the terms of a license agreement on commercially reasonable terms ("Negotiation Period"). The Negotiation Period may be extended by mutual agreement of Amarantus and Institution. During the Option Period and, if Amarantus exercises such option, the Negotiation Period, Institution shall not grant a license under such Institution Invention or Joint Invention to any third party nor negotiate the licensing of such Institution Invention or Joint Invention with any third party. If, at the end of the Option Period, Amarantus has not exercised the Option, or in the event the Parties fail to reach a mutually acceptable licensing arrangement within the Negotiation Period, Institution shall be entitled to negotiate with a third party for a license to Institution's rights in Institution Inventions and/or Joint Inventions. Institution may grant to any other person requesting a license to such inventions a fully paid up, non-exclusive, worldwide license to make, use, sell, offer to sell and import under such Institution's rights, provided that for a period of one (1) year from the expiration of the Negotiation Period, Institution shall not grant any third party any license to Institution's rights in Institution Inventions and/or Joint Inventions on terms that are more favorable to the third party than the terms last offered to Amarantus.

Any patent applications necessary to protect the proprietary positions of the parties in any of the Institution Inventions will be timely prepared and filed by Institution. Amarantus may file patent applications claiming Amarantus Inventions at its own discretion and expense. The parties will mutually agree on the allocation of rights and responsibilities for the filing and prosecution of patent applications claiming Joint Inventions, provided that such patent applications will be filed jointly in Amarantus's and Institution's names. If Amarantus elects to exercise the Option, Amarantus will pay for the costs of patent filing, prosecution and maintenance in the United States and any foreign country. If Institution elects not to file or maintain an application or patent arising from any Institution Invention, Institution shall promptly notify Amarantus, and Amarantus shall have the right to file or maintain the applications or patents, at Amarantus' discretion and expense.

e. Amarantus hereby grants to Institution and Institution hereby acknowledges and accepts a fully paid-up, irrevocable, non-exclusive license to use Amarantus Inventions for Institution's research, education and collaboration purposes only during the term of this agreement.

f. Institution represents that Institution will own all right, title and interest in each invention or item of intellectual property included in the Institution Inventions and Joint Inventions and reported to Institution by Investigator or other Institution personnel involved with the Research and that Institution has the right to grant to Amarantus the option and license with respect to Institution's interest in the Inventions contemplated in this Article 7.

8. **DISCLAIMER OF WARRANTIES.** NOTWITHSTANDING ANYTHING HEREIN TO THE CONTRARY, EVERYTHING PROVIDED BY THE PARTIES UNDER THIS AGREEMENT IS UNDERSTOOD TO BE EXPERIMENTAL IN NATURE, MAY HAVE HAZARDOUS PROPERTIES, AND IS PROVIDED WITHOUT ANY WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, OR NON-INFRINGEMENT OF ANY THIRD-PARTY PATENT, TRADEMARK, COPYRIGHT OR ANY OTHER THIRD-PARTY RIGHT. THE PARTIES MAKE NO WARRANTIES REGARDING THE QUALITY, ACCURACY, COMMERCIAL VIABILITY OR ANY OTHER ASPECT OF ITS PERFORMANCE PURSUANT TO THIS AGREEMENT OR REGARDING THE PERFORMANCE, VALIDITY, SAFETY, EFFICACY OR COMMERCIAL VIABILITY OF ANYTHING PROVIDED UNDER THIS AGREEMENT. IN NO EVENT SHALL INSTITUTION OR AMARANTUS BE LIABLE FOR ANY INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF OR IN ANY WAY CONNECTED WITH THIS AGREEMENT, WHETHER IN BREACH OF CONTRACT, TORT OR OTHERWISE, EVEN IF THE PARTY IS ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. EXCEPT FOR THEIR RESPECTIVE INDEMNITY OBLIGATIONS OR BREACH OF CONFIDENTIALITY, EACH OF AMARANTUS' AND INSTITUTION'S AGGREGATE LIABILITY TO THE OTHER UNDER THIS AGREEMENT SHALL NOT EXCEED THE PAYMENTS MADE OR PAYMENTS DUE UNDER THIS AGREEMENT, RESPECTIVELY.
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9. **Representations and Warranties.**

a. Institution hereby represents that it is not and Investigator is not under any obligation to any third party that would conflict with their obligations hereunder.

b. Institution hereby represents and warrants that neither it nor Investigator is a party, nor will become a party during the Term, to any agreement or arrangement that would prevent it or the Investigator from performing their duties and fulfilling their obligations to Amarantus under this Agreement.

c. Institution hereby represents that no federal grants or funds will be used in conducting the Research under this Agreement.

d. Institution hereby represents that it has not and Investigator has not been convicted of an offense related to any federal or state healthcare programs and has not been debarred by the United States Food and Drug Administration ("FDA"), nor to the best of its knowledge have debarment proceedings been commenced against it or Investigator. If, during the term of this Agreement, Institution-, Investigator, or any other Institution personnel participating in the conduct of the Research becomes debarred, or receives notice of action or threat of action with respect to its debarment by the FDA or any state healthcare program, Institution shall promptly notify Amarantus, such notice to occur no later than 30 days after the Institution was notified. In such case, Amarantus shall have the right to terminate this Agreement immediately.

10. **Indemnity.**

a. Notwithstanding anything else in this Agreement, Amarantus agrees to indemnify, defend and hold harmless Institution, Institution personnel, the Investigator, Institution's affiliates, and each of their respective present trustees, faculty, staff, employees, students, directors, officers, agents, successors and assigns (altogether the "Institution Indemnitees") from, for and against any and all judgments, settlements, losses, expenses, damages and/or liabilities ("Losses") and any and all court costs, attorneys' fees, and expert witness fees and expenses ("Fees") that an Institution Indemnitee may incur from any and all allegations, claims, suits, actions or proceedings in each case brought by a third party (the "Claims") arising out of, or relating to Amarantus' breach of this Agreement or its use, commercialization, or other exploitation of Institution deliverables, whether by or through Amarantus, and including all Claims for infringement, injury to business, personal injury and product liability, but excluding Losses and Fees; to the extent a Claim is adjudicated by a Court of competent jurisdiction to be caused by the gross negligence or willful misconduct of a n Institution Indemnitee.

b. Institution agrees to defend, indemnify and hold harmless Amarantus, its directors, officers, employees, agents, successors and assigns ("Amarantus Indemnitees") from and against any all Losses and/or Fees they may suffer in connection with any Claim arising from any breach of this Agreement by any Institution Indemnitee, except to the extent a Claim is adjudicated by a court of competent jurisdiction to be caused by the negligence or willful misconduct of an Amarantus Indemnitee.

c. Obligations set forth in this section shall survive termination of this Agreement, shall continue even after assignment of rights and responsibilities, and shall not be limited by any provision of this Agreement outside this section. If either party seeks indemnification under this agreement, the party seeking indemnification shall: (a) give the other party prompt written notice of any Claim; (b) cooperate with the other party in connection with the defense and settlement of the Claim; and (c) not settle or compromise the Claim without the written consent of the other party, which shall not be unreasonably withheld. The indemnifying party shall have the right to control the defense, without a reservation of rights, and settlement of the Claim for which the other party claims indemnification, provided that the indemnifying party shall not enter into any settlement that admits fault, wrongdoing or non-monetary damages without the other party's written consent, such consent not to be unreasonably withheld. For any claims which the indemnifying party does not defend the indemnified party, the indemnified party shall be entitled to conduct and direct its own defense with attorneys of its own selection with Fees subject to the indemnifying party's ongoing obligation to indemnify for Fees.

11. **Insurance.** Throughout the Term of this Agreement and for a period of five (5) years thereafter, Amaranthus shall obtain and maintain workers-compensation and comprehensive general liability self-insurance or insurance, with carrier(s) having at least A.M. Best ratings/class sizes of A/VII and in the following minimum annual limits: From the Effective Date until the date at least one day prior to the first commercial sale of a product utilizing inventions licensed to Amaranthus under this Agreement ("First Commercial Sale") or at least one day prior to the first clinical study in humans of a product utilizing inventions licensed to Amaranthus under this Agreement ("Clinical Study"): \$2,000,000 per occurrence and \$5,000,000 in the aggregate; and from the date at least one day prior to the First Commercial Sale or Clinical Study: \$5,000,000 per occurrence and \$10,000,000 in the aggregate.

Amaranthus will provide Institution with a certificate of insurance within thirty days of execution of this Agreement and annually thereafter until Agreement expiry or termination. The certificates must provide that Amaranthus's insurer will notify Institution in writing at least thirty (30) days prior to cancellation or material change in coverage. The specified minimum insurance coverage and limits do not constitute a limitation on Amaranthus's liability or obligation to indemnify or defend under this Agreement.

12. **Unauthorized Use of Materials.** The furnishing of Materials under this Agreement will not constitute or be construed to constitute any grant, option or license to Institution under any patent or other intellectual property rights now or hereafter held by Amaranthus, whether by implication, estoppel or otherwise, except to the extent necessary for Institution's conduct of the Research in accordance with the terms of this Agreement. Amaranthus provides the Materials and related information to Institution in reliance upon their agreement that the Materials and related Confidential Information are and shall remain the sole and exclusive property of Amaranthus and will be used solely as described in Sections 3 and 5, respectively and in accordance with the terms of this Agreement. Any unauthorized use of the Materials or such Confidential Information will constitute a material breach of this Agreement.
13. **Notices.** All notices provided for herein shall be given or made in writing and shall be deemed to have been duly given upon date of dispatch if (a) delivered by hand, (b) mailed by certified mail, return receipt requested, or (c) delivered by a recognized courier service, or (d) transmitted by facsimile and confirmed by overnight delivery of a hard copy, with appropriate documentation of delivery, to the intended recipient and, in the case of mail or courier service, at the following address:
-

If to Institution:

Office of Sponsored Research Services
Washington University
Attn: Director
One Brookings Drive, CB1054
St. Louis, MO 63130
Email address: whitemegan@wusm.wustl.edu

If to Amarantus:

Amarantus, Inc.
995 East Arques Avenue
Sunnyvale, CA 94085-4521
Attn: Gerald Commissiong, CEO
Copy: Marc Faerber, CFO

Copy:

Wilson, Sonsini, Goodrich & Rosati
650 Page Mill Road, Palo Alto,
California 94304-1050
Attn: Vern Norviel

Each party may change its address and/or contact person for such notices and communications by written notice to the other party in accordance with this Section 13.

14. **Use of Names.** The parties agree not to use or refer to this Agreement in any promotional activity, or use the names or marks of the other without express written permission, except to the extent such disclosure is reasonably necessary for (i) regulatory filings, including filings with the U.S. Securities Exchange Commission or FDA, (ii) prosecuting or defending litigation, or (iii) complying with (1) applicable governmental regulations and legal requirements or (2) the requirements of any stock exchange or stock listing entity. In addition, Amarantus may issue a press release announcing the relationship contemplated by this Agreement, as well as other press releases, only with the express written consent of Institution. This Section 14 shall not preclude Institution from acknowledging Amarantus' support or Amarantus' attribution of authorship in, and distribution of published academic literature reporting the results of research conducted with the Materials.
15. **Term.** This Agreement, and the Research hereunder, shall commence on the Effective Date and, unless terminated earlier pursuant to Sections 16.a, 16.b, or 16.c the Agreement shall continue in full force and effect until completion of the Research, but in no event longer than twenty-four (24) months ("Term").
16. **Termination.**
- a. Amarantus may terminate this Agreement for any reason upon thirty (30) days written notice to Institution.
 - b. Either party may terminate this Agreement if the Investigator becomes unavailable for or withdraws from the Research and Institution and Amarantus are unable to jointly agree upon a successor within fourteen (14) days after Amarantus is notified of such unavailability or withdrawal.
 - c. Either party may terminate this Agreement for material breach of the other party upon fourteen (14) days written notice to the breaching party, provided that the breaching party does not cure such material breach to the non-breaching party's reasonable satisfaction within fourteen (14) days of receiving written notice of such breach from the non-breaching party.
 - d. The rights and obligations under Sections 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 14, 16(c), (d), and (e), 17 and 18-24 shall survive any termination or expiration of this Agreement.
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e. Expiration or termination of this Agreement shall not relieve any party of any liability which accrued hereunder prior to the effective date of such expiration or termination, or preclude any party from pursuing all rights and remedies it may have hereunder or at law or in equity with respect to any breach of this Agreement, nor prejudice any party's right to obtain performance of any obligation.

f. In the event this Agreement is terminated by Amarantus under Section 16.b or 16.c, Institution shall refund, within ninety (90) days of termination, all unexpended funds, as of the termination date.

g. Upon termination, Amarantus's sole obligations to Institution shall be to pay any monies due and owing up to the time of termination for work actually performed and all costs reasonably and properly incurred by Institution as of the date that termination is effective, including all non-cancelable obligations reasonably and properly entered into for the purposes of the Project, which may include any non-cancelable project participant salaries, fellowships or post-doctoral stipends, and other non-cancelable executory obligations reasonably and properly incurred by Institution in furtherance of Project, subject to Institution taking reasonable steps to mitigate and minimize such costs and subject to Amarantus's maximum liability not exceeding any unpaid balance of the Budget.

17. **Governing Law; Venue.** This Agreement shall be governed by the laws of the State of Delaware and the United States of America, without reference to conflicts of laws principles. Any claim or controversy arising out of or related to this Agreement or any breach hereof shall be submitted to a court of applicable jurisdiction in the state of Delaware, and each party hereby consents to the jurisdiction and venue of such court.
18. **Assignment.** This Agreement shall not be assigned by either party without the prior written consent of the other party, except that Amarantus may assign this Agreement, without the consent of Institution, to (i) an Affiliate (defined below) of Amarantus; or (ii) an entity that acquires all or substantially all of that portion of Amarantus' business or assets to which this Agreement pertains, whether by merger, sale of assets, operation of law, or otherwise; provided, however, that the acquiring entity agrees in writing to be bound by the terms and conditions of this Agreement. "Affiliate" means any entity which (a) controls at least a fifty percent (50%) interest of one of the Parties; (b) is at least fifty percent (50%) owned by one of the Parties; or (c) is under common control of a third entity which owns at least a fifty percent (50%) interest in one of the Parties.
19. **Waivers.** Any waiver under this Agreement must be in writing, and will not operate as to a waiver of any future breach of this Agreement.
20. **Severability.** If any provision of this Agreement shall be deemed by a court of competent jurisdiction to be illegal, invalid or unenforceable, the validity, legality or enforceability of the remaining provisions of this Agreement shall not in any way be affected or impaired, and such provision shall be modified to the minimum extent necessary to make such provision consistent with applicable law, and in its modified form such provision shall be enforceable and enforced.
21. **Entire Agreement.** This Agreement, together with Exhibit A, Exhibit B, and Exhibit C attached hereto and incorporated herein, contains the final, complete and exclusive agreement of the parties with respect to the subject matter hereof and supersedes all prior and contemporaneous understandings and agreements relating to its subject matter.
22. **Modifications.** This Agreement may not be changed, modified, amended or supplemented except by a written instrument signed by both parties.
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23. **Counterparts.** This Agreement may be executed in two or more counterparts, each of which will be deemed an original, but all of which together will constitute one and the same instrument.

24. **Language.** This Agreement has been prepared in the English language and the English language shall control its interpretation.

The parties hereto have entered into this Agreement by their duly authorized representatives as of the Effective Date.

AMARANTUS, INC.

Signature: _____

Print Name: _____

Title: _____

Date: _____

INSTITUTION

Signature: _____

Print Name: _____

Title: _____

Telephone: _____

Fax: _____

E-mail: _____

Date: _____

The individual signing on behalf of Institution hereby represents and warrants that he or she has the requisite authority to bind Institution to this Agreement

By his signature below, Dr. Fumihiko Urano, MD, PhD acknowledges and understands his obligations under this Agreement.

Dr. Fumihiko Urano, MD, PhD

Exhibit A
Research Plan

Title: MANF-based treatment for optic nerve degeneration in Wolfram syndrome

Specific Aims

Wolfram syndrome is an autosomal recessive genetic disorder characterized by juvenile diabetes, blindness, and neurodegeneration. As there is currently no treatment, few patients with Wolfram syndrome exceed 40 years of age. One of the major manifestations that affect their quality of life is blindness. It has been shown that degeneration of a variety of retinal cells, including retinal ganglion cells and retinal pigment epithelial cells, is seen in patients with Wolfram syndrome. Wolfram syndrome is caused by mutations in the WFS1 gene encoding a transmembrane protein localized the endoplasmic reticulum (ER) and considered as a prototype of human ER disease.

The ER is a cellular compartment that has multiple biological functions, including the folding of secretory proteins, storage of calcium, and regulation of redox state. Increasing evidence indicates that ER dysfunction can lead to genetic disorders, such as Wolfram syndrome and early-onset Parkinson's disease, as well as common disorders, including diabetes. Despite the underlying importance of ER dysfunction in such diseases, there is currently no treatment that targets the ER.

Recent findings indicate that mesencephalic astrocyte-derived neurotrophic factor (MANF) and the signaling pathways regulated by MANF are promising drug targets for ER disease, including Wolfram syndrome. MANF is a 18.1 kDa protein secreted from cells undergoing ER dysfunction. It has been shown that MANF can confer protection against ER dysfunction-mediated cell death. We propose to advance therapeutic development for blindness in Wolfram syndrome using MANF.

Aim 1. To create retinal pigment epithelial cells and retinal ganglion cells using induced pluripotent stem cells (iPS cells) of Wolfram syndrome patients and appropriate control subjects.

Aim 2. To test if MANF can confer protection against ER dysfunction-mediated cell death using retinal pigment epithelial cells and retinal ganglion cells derived from Wolfram syndrome iPS cells.

Approach

Aim 1. To create retinal pigment epithelial cells and retinal ganglion cells using induced pluripotent stem cells (iPS cells) of Wolfram syndrome patients and appropriate control subjects.

We obtained fibroblasts from 14 patients with Wolfram syndrome and established multiple Wolfram syndrome-iPS cell lines using Sendai virus expressing OCT4, SOX1, KLF4, and c-MYC. Further iPSC clones were derived from their parents and non-affected control subjects using the same procedure. All Wolfram syndrome- and control-iPS cells showed silencing of the four transgenes, exhibited characteristic human embryonic stem cell morphology, expressed pluripotency markers including ALP, Nanog, SOX2, SSEA4, TRA-1-81, and had a normal karyotype. Pluripotent properties of Wolfram syndrome-iPSCs were also assessed by teratoma formation on intramuscular injection of undifferentiated Wolfram syndrome-iPSCs into SCID mice.

Creation of retinal pigment epithelial cells

To create retinal pigment epithelial cells, iPS cells will be seeded as suspension cultures in the presence of Y-27632 (10 μ M, days 0-14), CKI-7 (5 μ M, days 0-20), and SB-431542 (5 μ M, days 0-20). On day 21, these cells will be trypsinized, treated with collagenase, and cultured as floating aggregates. After 1-2 weeks, black spheres will be plated onto poly-D-lysine-laminin fibronectin-coated slides. These are retinal pigment epithelial cells and will be used for further experiments.

Creation of retinal ganglion-like cells

To create retinal pigment epithelial cells, we will first create neural progenitor cells from iPS cells. We will use STEMdiff™ Neural Induction Medium (Catalog #05831/05835). Neural rosette clusters will be selected and isolated for further experiments using STEMdiff™ Neural Rosette Selection Reagent (Catalog #05832) from STEMCELL TECHNOLOGIES. These isolated neural rosette clusters are neural progenitor cells. These iPS cell-derived neural progenitor cells will be treated with FGF2 for 8-10 days, and then treated with Shh for another 12 h. These are retinal ganglion-like cells and will be used for further experiments.

Aim 2. To test if MANF can confer protection against ER dysfunction-mediated cell death using retinal pigment epithelial cells and retinal ganglion cells derived from Wolfram syndrome iPS cells.

We have recently reported that the loss of function of WFS1 causes the leakage of calcium from the ER to the cytosol and subsequent calpain 2 activation, leading to cell death. We will test if MANF can prevent calpain 2-mediated cell death.

Retinal pigment epithelial cells and retinal ganglion cells derived from control and Wolfram syndrome iPS cells will be pretreated with different concentrations of MANF for 24 h, and then challenged with or without an ER stress-inducer thapsigargin (0.5 μ M) for another 24 h. Calpain 2 activation and cell death will be monitored by spectrin cleavage and caspase 3 cleavage respectively. We will also isolate RNA from these cells and study the gene expression profiles to identify survival genes activated by MANF in retinal pigment cells and retinal ganglion cells.

EXHIBIT B**Budget****Personnel Costs (Salary & Fringe)**

Fumihiko Urano, MD, PhD (1 calendar month per year) is a Principal Investigator. He is responsible for the administration and direction of all aspects of the Research Project. He will supervise all other personnel working on the Research Project. He will play a major role in the design of the experiments and interpretation of the data.

Cri Brown, B.S, Research Assistant (2 calendar months per year) is an experienced research assistant in Dr. Urano's lab. She is responsible for the experiments described in Aim 1 and Aim 2.

Total Personnel Costs (Salary and Fringe)
\$29,025 (05/01/2014-04/30/2015)

Supplies Costs
\$49,975 (05/01/2014-04/30/2015)

Travel Costs

Dr. Urano and his colleagues will travel to collect information for developing diagnostics and therapeutics for diabetes using MANF. National and international travel will be necessary for this Research Project. The estimated costs for this travel will be \$ 1,000.

Research Project Costs

Direct Costs	\$ 80,000
Indirect Cost (50 %)	\$ 40,000

Total Research Project Costs \$ 120,000

Exhibit C
Materials

Recombinant human mesencephalic astrocyte-derived neurotrophic factor (rhMANF) (Batch 030513) will be provided by Amaranthus. rhMANF was expressed by Icosagen AS (Tartu, Estonia) in a Chinese hamster ovary (CHO)-based cell line using QMCF technology and purified by ion-exchange and gel-filtration chromatography from serum-free CHO growth medium. The rhMANF was homogenous as determined by mass-spectroscopy and displayed a molecular weight of 18142.3 Da. Coomassie-stained SDS-PAGE and Western blotting resulted in a single band of the expected molecular weight. The endotoxin level was less than 1 EU/mg of protein as determined by the LAL method.

rhMANF displayed cellular activity on dopaminergic neurons in the expected concentration range and was active in vivo in a mouse model of retinal degeneration.

rhMANF will be provided as a 1mg/ml solution in PBS, pH 7.4.

rhMANF will be shipped on dry-ice and should be stored at -70 degrees Celsius upon receipt. Repeated freeze-thaw cycles should be avoided and therefore it is recommended to aliquot the rhMANF solution into smaller quantities.

OPTION AGREEMENT

This Option Agreement (“**Agreement**”) is made as of July 31st, 2014 (the “**Effective Date**”) by and between Universität Leipzig, a German corporate body under public law having its principal place of business at Ritterstr. 26, 04109 Leipzig, Germany (“**Leipzig**”), and Amarantus Bioscience Holdings, Inc., a Nevada corporation having a principal place of business at 953 Indiana Street, San Francisco, CA 94107, U.S.A. (“**Amarantus**”). Leipzig and Amarantus may each be referred to herein as a “**Party**” or collectively as the “**Parties**”.

BACKGROUND

WHEREAS, Leipzig is the owner of patent rights relating to PCT Application No. PCT/EP2010/000702 filed on August 12, 2010 (Priority date: February 4, 2009) and entitled “Vector(s) Containing an Inducible Gene Encoding a CDK4/CDK6 Inhibitor Useful for Treating Neurodegenerative Disorders or Diseases Associated with an Unscheduled Activation of the Cell Cycle” with named inventors Thomas Arendt and Uwe Ueberham and relating to the German patent DE 19936034 (Priority date: July 30, 1999) (collectively, the “**Patent Application(s)**”);

WHEREAS, Amarantus desires to obtain an exclusive option to acquire an exclusive license under such patent rights and related technology in the Territory (as defined below), in accordance with the terms and conditions set forth in this Agreement.

NOW, THEREFORE, in consideration of the foregoing premises and the mutual covenants herein contained, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

ARTICLE 1
DEFINITIONS

As used in this Agreement, initially capitalized terms shall have the meanings given to them below or elsewhere in this Agreement:

1.1 “**Affiliate**” means, with respect to a Party, any corporation or other entity which controls, is controlled by or is under common control with such Party, as the case may be, for so long as such control exists. For purposes of this definition, the term “control” means (a) direct or indirect ownership of fifty percent (50%) or more of the shares of the subject entity entitled to vote in the election of directors (or, in the case of an entity that is not a corporation, for the election of the corresponding managing authority), or, if less than fifty percent (50%), the maximum ownership interest permitted by applicable law in a particular jurisdiction, or (b) the possession, directly or indirectly, of the power to direct, or cause the direction of, the management or policies of such entity, whether through the ownership of voting securities, by contract or otherwise.

1.2 “**Cover**” means, with respect to any subject matter, the manufacture, use, sale, offering for sale or importation of such subject matter that would infringe a claim of a patent (or a patent application, if such claim was included in an issued patent) at the time thereof. “**Covered**” and “**Covering**” shall have their correlative meaning.

1.3 “**Invention**” means any and all subject matter claimed or disclosed in the Patent Application.

1.4 “**Leipzig Know-How**” means any and all inventions, developments, discoveries, technical information, know-how, processes, procedures, compositions, materials, devices, methods, protocols, techniques, data (including clinical data) or other subject matter owned or controlled by Leipzig that is necessary or useful for the practice of the Invention.

1.5 “**Leipzig Technology**” means (a) the Invention, (b) any and all patent applications filed on (a) above, including the Patent Applications, and all continuations, continuations-in-part, substitutions and divisionals of any such applications, in each case owned or controlled by Leipzig, and (c) all letters patent worldwide issuing on any of the patent applications described in (b), including all reissues, extensions, confirmations, re-registrations, re-examinations, revalidations and patents of addition, supplementary protection certificates, or other governmental actions which extend any of the foregoing, in each case owned or controlled by Leipzig ((b) and (c), collectively, the “**Patent Rights**”).

1.6 “**Option Period**” means the period commencing on the Effective Date, and ending on the date that is one (1) year thereafter, and any extension thereto granted pursuant to Section 2.1.

1.7 “**Term**” means the term of this Agreement as determined pursuant to Section 8.1.

1.8 “**Territory**” means worldwide.

1.9 “**Third Party**” means any person or entity other than Leipzig, Amarantus and their respective Affiliates.

ARTICLE 2

OPTION

2.1 Option Grant. Leipzig hereby grants to Amarantus (and its Affiliates) an exclusive option (“**Option**”) to acquire (a) an exclusive license, including the right to grant and authorize sublicenses, under the Leipzig Technology, and to research, develop, make, have made, use, have used, offer for sale, sell, import and otherwise exploit products and/or services in the Territory (the “**License**”). Prior to the expiration of the Option Period and in its sole discretion, Amarantus may extend the Option Period for one six (6) month period by paying Leipzig the fee set forth in Paragraph 4.1(b). Amarantus may exercise the Option at any time during the Option Period by providing written notice of such exercise to Leipzig. Leipzig agrees to negotiate in good faith a grant to Amarantus of a non-exclusive license to Leipzig Know-how on terms and conditions to be agreed in the Negotiation Period (as defined below).

2.2 Territory Exclusivity. Except as expressly provided otherwise under this Agreement, during the Option Period (including any extension thereto) and any Negotiation Period, Leipzig shall not negotiate or enter into any arrangement that would conflict with Amarantus’ right to obtain an exclusive license under the Leipzig Technology pursuant to the Option. Without limiting the foregoing, Leipzig shall not (a) offer or grant any rights or licenses under the Leipzig Technology in the Territory to any Third Party, (b) offer or grant any rights to develop or commercialize products or services that incorporate the Leipzig Technology in or for the Territory, or (c) engage in discussions or negotiations with any Third Party with regard to the grant of the foregoing rights or licenses.

2.3 License Agreement. Upon exercise of the Option as set forth in Section 2.1 above, Leipzig and Amarantus shall enter into exclusive negotiations with respect to, and shall use good faith efforts to execute, an agreement granting Amarantus the License (the “**License Agreement**”) within three (3) months after such exercise (the “**Negotiation Period**”). The terms and conditions of any such License Agreement entered into between Amarantus and Leipzig pursuant to this Agreement will be negotiated in good faith.

2.4 Sponsored Research Agreement. Promptly following the Effective Date, Leipzig and Amarantus shall use good faith efforts to execute a sponsored research agreement (the “**Sponsored Research Agreement**”) related to the further development of the Leipzig Technology. The terms and conditions of any such Sponsored Research Agreement entered into between Amarantus and Leipzig will be negotiated in good faith.

ARTICLE 3 **EVALUATION**

3.1 Disclosure. Within sixty (60) days following the Effective Date, Leipzig shall provide to Amarantus a copy of the Patent Applications. On request of Amarantus Leipzig does its best efforts to disclose additional Leipzig Know-How that could be necessary or useful for Amarantus to understand the Invention, make an evaluation of the Leipzig Technology and determine whether to exercise the Option. During the Option Period, Leipzig does its best efforts keep Amarantus informed on a regular basis of the progress of all studies conducted by or on behalf of Leipzig with the Leipzig Technology, and shall provide to Amarantus monthly updates of the progress of any such studies and all results obtained to date, including any clinical data generated. For the avoidance of doubt nothing in this Agreement shall be deemed to require Leipzig to conduct, or procure the conduct of studies. In the event that Leipzig and Amarantus deem a study desirable, Amarantus shall be given the opportunity to participate in the design and funding of such further study on terms to be agreed.

3.2 Access. Leipzig shall provide Amarantus reasonable opportunity to confer with the inventors named on the Patent Application(s) regarding the Leipzig Technology, at Amarantus’ request and expense.

3.3 Evaluation. Amarantus shall have the right, using the disclosure made pursuant to this ARTICLE 3, and any other disclosure made by or on behalf of Leipzig under this Agreement, to evaluate the technical, economic and commercial advantages of the Leipzig Technology and its market potential in the Territory.

ARTICLE 4 **PAYMENTS**

4.1 Option Fee. In consideration of the Option granted to Amarantus in this Agreement, Amarantus shall pay to Leipzig the following option fees (each, an “**Option Fee**”):

- (a) Ten Thousand Dollars (US\$10,000) within ten (10) days following the Effective Date; and

(b) Five Thousand Dollars (US\$5,000) within (10) days following any decision by Amarantus to extend the Option Period in accordance with Section 2.1.

4.2 Payment Method. Amarantus shall pay the amounts due to Leipzig hereunder via wire transfer in immediately available funds to an account specified by Leipzig in U.S. currency.

4.3 Taxes. All amounts paid hereunder shall be inclusive of taxes, and Leipzig shall be responsible for any applicable sales tax, value added tax, duties and any similar taxes and charges incurred by Leipzig with respect to such payments.

ARTICLE 5 **PATENT MATTERS**

5.1 Patent Prosecution. During the Term, Leipzig shall file for, prosecute and maintain the Patent Applications and/or any related national filings in the United States, the European Union, Australia, Canada, China, India, Korea and Japan and shall: (a) provide Amarantus with copies of and an opportunity to review and comment upon (which comments Leipzig shall consider in good faith and use all reasonable efforts to implement the same) any communications, filings or applications relating to such patent applications at least thirty (30) days before the submission thereof to any patent office in the United States and the European Union, and (b) provide Amarantus with copies of all material communications, filings or submissions made or received with respect to filing, prosecution and maintenance of such patent applications in the United States and the European Union. Furthermore, Leipzig shall keep Amarantus fully informed with respect to all filing, prosecution and maintenance activities with respect to the Patent Rights worldwide during the Term. Amarantus shall reimburse Leipzig for reasonable patent expenses (including overheads [reduced rate of 15 %] and inventors bonus according German Employee's Inventions Act) incurred in relation to the Patent Applications from the Effective Date until the termination or expiration of the Option Period.

5.2 Limit on Leipzig Obligations. For the avoidance of doubt Leipzig shall have no obligation to maintain the Patent Applications in territories outside the United States, the European Union, Australia, Canada, China and Japan.

ARTICLE 6 **CONFIDENTIALITY**

6.1 Confidential Information. As used in this Agreement, "**Confidential Information**" means nonpublic information, including, without limitation know-how, disclosed by or on behalf of one Party or its Affiliates to the other Party or its Affiliates in connection with this Agreement and (a) if disclosed in written or tangible form, is labeled or designated by the disclosing party as "confidential" or "proprietary," (b) if disclosed orally, is identified as "confidential" or "proprietary" at the time of such disclosure to the receiving party and reduced to writing within thirty (30) days after such disclosure, or (c) is reasonably obvious as "confidential" or "proprietary" due to the nature of the information and the manner of disclosure. Each Party shall use reasonable efforts to maintain in confidence and shall not disclose to any Third Party any Confidential Information furnished to it by the other Party and agrees not to use any such Confidential Information of the other Party other than as necessary to exercise its rights or carry out its obligations under this Agreement, except as otherwise set forth in this ARTICLE 6. Each Party shall ensure that its employees have access to Confidential Information of the other Party only on a need-to-know basis and are subject to written obligations of confidentiality and non-use substantially similar to those in this ARTICLE 6. The foregoing obligations shall not apply to information that:

- (a) was already known to the receiving Party at the time of disclosure, other than under an obligation of confidentiality, as evidenced by written documentation;
- (b) was generally available to the public or otherwise part of the public domain at the time of its disclosure to the receiving Party;
- (c) becomes generally available to the public or otherwise part of the public domain after its disclosure and other than through any act or omission of the receiving Party in breach of this Agreement;
- (d) was subsequently lawfully disclosed to the receiving Party by a person other than a Party hereto; or
- (e) is independently developed by the receiving Party, as evidenced by written documentation.

6.2 Permitted Use and Disclosures. Each Party hereto may disclose Confidential Information disclosed to it by the other Party to the extent such use or disclosure is reasonably necessary in complying with applicable law or regulation or legal process, *provided* that if a Party is required to make any such disclosure of another Party's Confidential Information, it will give reasonable advance notice to the latter Party of such disclosure and, will use good faith efforts consistent with its normal business practices to secure confidential treatment of such information prior to its disclosure (whether through protective orders or otherwise). Any Confidential Information so disclosed shall retain its confidentiality protection for all purposes other than such legally compelled disclosure. Amarantus may also disclose this Agreement and Leipzig's Confidential Information to actual and potential investors and acquirers as is reasonably necessary in connection with such investment or acquisition.

6.3 Confidential Terms. Except as expressly provided herein, each Party agrees not to disclose the existence or terms of this Agreement to any Third Party without the written consent of the other Party; *provided, however*, that disclosures may be made by a Party (a) to its Affiliates, (b) to its advisors and consultants so long as they are bound by written obligations of confidentiality and non-use substantially similar to those in this ARTICLE 6, and/or (c) in order to comply with applicable law or regulation.

ARTICLE 7

REPRESENTATIONS AND WARRANTIES

- 7.1 Mutual Representations and Warranties. Each Party hereby represents and warrants that:
- (a) it has the power and authority and the legal right to enter into this Agreement and perform its obligations hereunder; and

(b) the Agreement has been duly executed and delivered on behalf of such Party, and constitutes a legal, valid and binding obligation of such Party and is enforceable in accordance with its terms.

7.2 Leipzig Declarations. Leipzig hereby declares that:

(a) it is the sole and exclusive owner of the Invention and the Patent Applications and has sufficient rights in all other Leipzig Technology to grant to Amarantus the Option and License;

(b) prior to the Effective Date, it has not entered and, on or after the Effective Date, it will not enter into any agreement with any Third Party which is in conflict with the rights granted to Amarantus under this Agreement; and it has not taken and will not take any action that would in any way prevent it from granting the rights granted to Amarantus under this Agreement, or that would otherwise adversely affect the rights granted to Amarantus under this Agreement;

(c) there are no existing or threatened actions, suits or claims pending against Leipzig with respect to any Leipzig Technology or Leipzig's ability to enter into and perform its obligations under this Agreement;

(d) to its knowledge, except for the Patent Applications, as of the Effective Date, Leipzig does not own or control any patent or patent application (including any invention disclosure or draft patent application for which a patent application is intended to be filed) the claims of which would dominate any practice of the Leipzig Technology in the Territory; and

(e) to its knowledge, no Third Party is infringing or misappropriating the Leipzig Technology.

ARTICLE 8

TERM AND TERMINATION

8.1 Term. Unless earlier terminated as provided in this Agreement or extended by written agreement of the parties, this Agreement shall terminate on the later date of (a) the expiration of the Option Period (including any extension thereof); or (b) if the Option is exercised by Amarantus, the expiration of the Negotiation Period.

8.2 Termination by Amarantus. Amarantus may terminate this Agreement upon thirty (30) days' written notice to Leipzig.

8.3 Termination for Cause. Either Party may terminate this Agreement if the other Party is in material breach or default of this Agreement, and fails to cure such material breach or default within thirty (30) days after receiving written notice thereof.

8.4 Effect of Termination. Upon the termination of this Agreement, each Party shall promptly destroy or return to the other Party all Confidential Information received from the other Party pursuant to this Agreement (except one copy which may be retained in confidential archives for the purpose of ensuring compliance with this Agreement only). Except as set forth in this Section 8.4 or Section 8.5 below, all rights and obligations of the Parties hereunder shall terminate upon the expiration or termination of this Agreement.

8.5 Survival. Sections 8.4, 8.5, and ARTICLES 6 and 9 of this Agreement shall survive the expiration or termination of this Agreement for any reason.

ARTICLE 9
MISCELLANEOUS

9.1 Governing Law. This Agreement and any dispute arising from the performance or breach hereof shall be governed by and construed and enforced in accordance with the laws of the State of California, U.S.A. without reference to conflicts of laws principles. The Parties hereby expressly consent to the personal and exclusive jurisdiction and venue of the courts located in Santa Clara County, California, U.S.A.

9.2 Independent Contractors. The relationship of the Parties hereto is that of independent contractors. The Parties hereto shall not be deemed to be agents, partners or joint venturers of the other for any purpose as a result of this Agreement or the transactions contemplated thereby.

9.3 Assignment. This Agreement shall not be assignable by either Party to any Third Party hereto without the written consent of the other Party hereto; *provided, however*, Amarantus may assign this Agreement, without Leipzig's consent, to (a) an Affiliate, or (b) an entity that acquires all or substantially all of the business or assets of Amarantus to which this Agreement pertains, whether by merger, reorganization, acquisition, sale, or otherwise. The terms and conditions of this Agreement shall be binding on and inure to the benefit of the permitted successors and assigns of the Parties. Any attempted assignment of this Agreement other than as permitted under this Section 9.3 shall be null and void.

9.4 Notices. All notices, requests and other communications hereunder shall be in writing and shall be personally delivered or sent by telecopy or other electronic facsimile transmission or by registered or certified mail, return receipt requested, postage prepaid, in each case to the respective address specified below, or such other address as may be specified in writing to the other Party hereto:

Amarantus: Amarantus Bioscience Holdings, Inc.
 c/o Janssen Labs @ QB3
 953 Indiana Street
 San Francisco, CA 94107, U.S.A.
 Attn: _____
 Facsimile: _____

Leipzig: Universität Leipzig
 Forschungskontaktstelle
 Ritterstr. 26
 04109 Leipzig, Germany
 Attn: Dr. Dirk Wilken
 Facsimile: +49 – 341 – 79 – 35010

9.5 Compliance with Laws. In exercising their rights under this Agreement, the Parties shall fully comply in all material respects with the requirements of any and all applicable laws, regulations, rules and orders of any governmental body having jurisdiction over the exercise of rights under this Agreement.

9.6 Entire Agreement; Amendment. This Agreement constitutes the entire and exclusive agreement between the Parties with respect to the subject matter hereof and supersedes and cancels all previous discussions, agreements, commitments and writings in respect thereof. No provision of this Agreement may be waived, amended or added unless mutually agreed upon in writing by both parties. In the event any provision of this Agreement is found to be legally unenforceable, such unenforceability shall not prevent enforcement of any other provision of the Agreement.

9.7 Publicity. The Parties have mutually approved a press release attached hereto as Exhibit 9.7 with respect to this Agreement and either Party may make subsequent public disclosure of the contents of such press release. Subject to the foregoing, each Party agrees not to issue any press release or other public statement, whether oral or written, disclosing the terms hereof without the prior written consent of the other Party, provided however, that neither Party will be prevented from complying with any duty of disclosure it may have pursuant to applicable laws or pursuant to the rules of any recognized stock exchange or quotation system, subject to that Party notifying the other Party of such duty and limiting such disclosure as reasonably requested by the other Party (and giving the other Party sufficient time, and in all instances at least ten (10) Business Days, to review and comment on any proposed disclosure, unless otherwise required by Applicable Law).

9.8 Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original and all of which constitute one agreement.

IN WITNESS WHEREOF, the Parties, intending to be legally bound, have caused this Agreement to be executed by their duly authorized representatives as of the Effective Date.

UNIVERSITÄT LEIPZIG

AMARANTUS BIOSCIENCE
HOLDINGS, INC.

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

Exhibit 9.2

Initial Press Release

CERTAIN PORTIONS OF THIS EXHIBIT HAVE BEEN OMITTED BASED UPON A REQUEST FOR CONFIDENTIAL TREATMENT AND THE NON-PUBLIC INFORMATION HAS BEEN FILED WITH THE SECURITIES AND EXCHANGE COMMISSION.

LICENSE AGREEMENT
Between
PGI Drug Discovery LLC.
and
Amarantus BioScience Holdings Inc.

This License Agreement, effective as of the “Effective Date” (defined below), confirms the mutual understanding between PGI Drug Discovery LLC, a Delaware corporation having a place of business at 765 Old Saw Mill River Road, Tarrytown, NY 10591 (“PGI”) and Amarantus Bioscience Holdings, Inc., a Nevada corporation have a place of business at 675 Almanor Avenue, Sunnyvale, CA 94085 (“Amarantus”). In this Agreement, PGI and Amarantus may also be individually referred to as a Party and collectively as the “Parties.”

WHEREAS, PGI possesses or has rights to certain intellectual property including clinical and pre-clinical data concerning Licensed Compounds (defined below) for CNS related therapeutic applications (collectively the “Eltoprazine Program”);

WHEREAS, Amarantus wishes to license the Eltoprazine Program and to commercialize products therefrom; and

WHEREAS, PGI is willing to grant license rights to the Eltoprazine Program in the Territory (as defined below) pursuant to the terms of this Agreement.

NOW THEREFORE, in accordance with the foregoing, the Parties intending to be legally bound hereby agree as follows:

1.0 Definitions.

- 1.1 “Affiliates” shall mean, with respect to either Party, any corporation, company, partnership, joint venture or any other entity controlled by, controlling, or under common control with such Party and shall include any corporation, company, partnership, joint venture, or other entity at least fifty percent (50%) of whose voting stock or participating profit interest is owned or controlled, directly or indirectly, by such Party, and any corporation, company, partnership, joint venture, or other entity which owns or controls, directly or indirectly, at least fifty percent (50%) of the voting stock of such Party.
 - 1.2 “Agreement” means this license agreement between Amarantus and PGI.
 - 1.3 “Amarantus” shall mean Amarantus and its Affiliates.
 - 1.4 “Amarantus Know-How” shall mean Know-How owned or controlled by Amarantus.
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- 1.5 “Amarantus Patents” shall mean Amarantus owned or controlled patents and patent applications (a) containing at least one claim covering the structure, use, formulation and/or manufacture of Licensed Compound(s) or Licensed Product(s); and those (b) containing one or more claims covering processes and/or intermediates reasonably necessary or useful in the manufacture of Licensed Compound(s) or Licensed Product(s). Notwithstanding the foregoing, the Amarantus Patents shall exclude any patents and patent applications to the extent claiming any active ingredient other than a Licensed Compound and not including Licensed Compound.
- 1.6 “Asian Territory” shall mean Japan, Korea, China, and Taiwan.
- 1.7 “Combination Product” shall mean any Licensed Product containing one or more Licensed Compound(s) along with one or more additional active ingredients.
- 1.8 “Development Plan” shall mean Amarantus’ plan the main principles of which are set forth in **Exhibit B** for the development and commercialization of Licensed Product, as updated from time to time.
- 1.9 “Effective Date” shall mean the last date of the signatures below.
- 1.10 “Eltoprazine” shall mean [1-(2,3-dihydro-1,4-benzodioxin-5-yl)-piperazine hydrochloride].
- 1.11 “FDA” shall mean the US Food and Drug Administration or any successor entity and any applicable foreign equivalent entity within the Territory.
- 1.12 “Generic Competition” shall mean any entity other than Amarantus, its Affiliates or Sublicensees, that develops and/or markets/sells the same or equivalent active pharmaceutical ingredient(s) as contained in the Licensed Product(s) in any country where Amarantus, its Affiliates or Sublicensees are marketing the Licensed Product(s)
- 1.13 “Indemnitees” shall mean a respective Party’s directors, officers, employees and agents.
- 1.14 “Inventions” shall mean any inventions or discoveries, whether or not patentable, made by employees and/or agents of Amarantus or Affiliates of Amarantus (either solely or jointly with employees and/or agents of PGI or Third Parties) that pertain to Licensed Compounds.
- 1.15 “Know-How” shall mean information, data including without limitation preclinical and clinical data and results, manufacturing techniques, formulations, processes and unpatented inventions pertaining to Licensed Compounds or Licensed Products.
- 1.16 “Licensed Compound” shall mean Eltoprazine including all stereoisomers, polymorphs, prodrugs, analogs, active metabolites and salts of any of the foregoing along with any and all related compounds and analogs disclosed and claimed in Solvay Patents.
- 1.17 “Licensed Patents” shall mean PGI Licensed Patents, Solvay Licensed Patents and Veteran’s Administration Licensed Patents.
- 1.18 “Licensed Product(s)” shall mean any product or formulation of Licensed Compound or Combination Product.
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- 1.19 “Licensed Technology” shall mean Licensed Patents and PGI Know-How.
- 1.20 “Major Country” shall mean the United States, Canada, the United Kingdom, Germany, France, Spain, Sweden, Denmark, Netherlands and Italy.
- 1.21 “Net Sales” shall mean the total amount received on account of sales of a Licensed Product by Amarantus, its Affiliates or Sublicensees to Third Parties in the Territory, less the following deductions to the extent actually allowed or specifically allocated to the Licensed Product by the selling party using generally accepted International Accounting Standards (“IAS”):
- (i) value added taxes, sales and excise taxes and duties paid or allowed by the selling party and any other governmental charges imposed upon the production, importation, use or sale of such Licensed Product;
 - (ii) trade, quantity and cash discounts allowed on Licensed Product;
 - (iii) allowances or credits allowed on account of rejection, withdrawal or recall of Licensed Product;
 - (iv) freight and insurance costs, if they are included in the selling price for the Licensed Product invoiced to Third Parties or otherwise paid by Third Parties, including handling, provided always that such deduction shall not be greater than the balance between the selling price actually invoiced to the Third Party and the standard selling price which would have been charged to such Third Party for such Licensed Product exclusive of freight and insurance in the respective country.

Notwithstanding the foregoing, “Net Sales” shall not include amounts (i) for any Licensed Product furnished to a Third Party for which payment is not intended to be received, including without limitation, Licensed Products used in research and/or development or clinical trials and Licensed Products distributed as promotional and free goods, or (ii) from sales of Licensed Product between Amarantus, its Affiliates or Sublicensees, provided that Net Sales shall include the amounts received by such Affiliate or Sublicensees from Third Parties for the resale of such Licensed Product. In the event a Licensed Product is sold as a Combination Product, Net Sales attributable to the Licensed Product shall be calculated by multiplying the Net Sales (as described above) of the Combination Product by the fraction A divided by $(A+B)$, in which A is the Gross Selling Price of the Licensed Compound contained in the Combination Product sold separately in commercial quantities in arms-length transaction quantities during the previous calendar quarter, and B is the sum of the Gross Selling Prices of other active ingredients contained in the Combination Product sold separately in commercial quantities in arms-length transaction quantities during the previous calendar quarter. In the event that no separate sales of either the Licensed Compound or any active ingredients contained in the Combination Product made during the applicable calendar quarter or if the Gross Selling Price cannot otherwise be determined, Net Sales allocable to the Licensed Compound and other active ingredient(s) contained in the Combination Product shall be determined in good faith by the Parties based on the relative value contributed by the Licensed Compound and active ingredient(s) in such Licensed Product, such agreement shall not be unreasonably withheld. If such agreement cannot be reached, either Party may refer the issue to resolution pursuant to Section 13.0. For purposes of the foregoing, “Gross Selling Price” means the weighted average gross price at which a product is sold to a Third Party, before discounts, deductions, credits, taxes or allowances; Gross Selling Price shall not take into consideration the price for any product sold or used for development purposes (including for clinical studies) or as samples or free goods (including, without limitation, product transferred in connection with patient assistance programs or other charitable purposes).

- 1.22 “PGI” shall mean PGI Drug Discovery LLC and its Affiliates.
- 1.23 “PGI Know-How” shall mean Know-How owned or controlled by PGI as of the Effective Date or generated by it thereafter.
- 1.24 “PGI Licensed Patents” shall mean PGI owned patents and patent applications listed in **Exhibit A**.
- 1.25 “Regulatory Approvals” shall mean and include licenses, permits, authorizations and approvals of, and registrations, filings and other notifications to, any governmental agency or department within the Territory, including, without limitation, the United States Food and Drug Administration and the EMEA/European Commission, as applicable, and including any requisite pricing and reimbursement approval, necessary or appropriate for the manufacture, production, distribution, marketing, sale and/ or use of Licensed Product within the Territory.
- 1.26 “Research Support” shall mean that compensation allocated to and identified with defined research and development efforts aimed at advancing Licensed Product(s) towards commercialization.
- 1.27 “Royalty Term” is defined in Section 4.8.
- 1.28 “Solvay” shall mean Solvay Pharmaceuticals B.V. Reference to Solvay under this Agreement, made for convenience and simple historical continuity, shall in fact mean AbbVie Inc. as the current assignee of the Solvay License.
- 1.29 “Solvay License” shall mean the License Agreement between PGI and Solvay dated February 26, 2006, which agreement, to the best knowledge of PGI, has been purchased by and assigned to the Global Pharmaceuticals Unit of Abbott Laboratories (“Abbott”) as part of Abbott’s purchase of Solvay in February 2011 and that under the Solvay License, Abbott now has the rights previously held by Solvay. Subsequently during 2012, as part of its reorganization announced October 19, 2011, Abbott assigned the Solvay License to AbbVie Inc. Reference to Solvay under this Agreement, made for convenience and simple historical continuity, shall in fact mean AbbVie Inc. as the current assignee of the Solvay License.
- 1.30 “Solvay Licensed Patents” shall mean the Solvay patent listed in **Exhibit A** and exclusively licensed to PGI.
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- 1.31 “Sublicensee” shall mean any Third Party with whom Amaranthus has entered into an agreement wherein Amaranthus grants to such Third Party a sublicense under the Licensed Patents to, among other things, make and sell Licensed Products. For clarity, “Sublicensee” shall exclude any Third Party granted the right to serve as a distributor, wholesaler or reseller of Licensed Products without a grant of rights to act on its own behalf.
- 1.32 “Term” is defined in Section 7.1.
- 1.33 “Territory” shall mean worldwide excluding the Asian Territory.
- 1.34 “Third Party” shall mean any other party that is independent from Amaranthus and PGI.
- 1.35 “VA License” shall mean the Patent License Agreement entered into by and between PGI and the Department of Veteran’s Affairs (“VA”) as of March 17, 2010
- 1.36 “Valid Claim” shall mean a claim of an issued and unexpired patent or a patent application pending no more than five years after the earliest date from which such application claims priority within the Licensed Patents which has not been held unpatentable, invalid or unenforceable by a court or other government agency of competent jurisdiction and has not been disclaimed or admitted to be invalid or unenforceable through reissue, re-examination or otherwise.
- 1.37 “Veteran’s Administration Licensed Patents” shall mean those Wolf patents/applications listed in **Exhibit A** assigned to The U.S. Government as represented by the VA and exclusively licensed to PGI through the VA License.

2.0 License.

- 2.1 License Grant. Subject to the terms and limitations of this Agreement, PGI hereby grants to Amaranthus an exclusive license and sublicense in the Territory under Licensed Patents and PGI Know-How to develop, make, have made, use, offer for sale, sell, import and export Licensed Compound(s) and Licensed Products. Such license shall include the right to sublicense subject to PGI’s approval, not to be unreasonably withheld or delayed, provided that so long as any such sublicense contains terms and conditions consistent with this Agreement, including those set forth in Section 2.2 below, such sublicense shall be deemed to be approved by PGI.
- 2.2 Sublicensing. Subject to the participation payment under Section 4.7 below, Amaranthus shall have the right to grant written sublicenses to its Affiliates and Third Parties on conditions that the written sublicense agreement, consistent with the obligations under the Solvay License and the license with the Veteran’s Administration, incorporates the obligations of Amaranthus under Sections 3.1, 3.2, 3.4, 4.5, 4.13 (except that Amaranthus shall conduct any audit of a Sublicensee on behalf of PGI at PGI’s expense) and 8 of this Agreement. Amaranthus shall provide PGI with complete copies of all sublicense agreements and any amendments to such agreements, which shall be marked and treated confidentially and reported (with requests for confidential treatment) to AbbVie and the VA as required pursuant to the Solvay License and the VA License, respectively.
- 2.3 Information Transfer. In furtherance of the rights and licenses granted by PGI to Amaranthus under this Agreement, within thirty (30) days after the Effective Date of this Agreement, PGI will furnish to Amaranthus full, unrestricted access to the data room including PGI Know-How. Amaranthus shall not use any of the PGI Know-How furnished by PGI under this Section 2.3 for any purpose whatsoever except as specifically authorized in this Agreement, or as otherwise specifically authorized in writing by PGI.
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- 2.4 Inventory Transfer. Following the Effective Date on a schedule to be reasonably and mutually agreeable, PGI shall transfer or cause to be transferred, such inventory of Eltoprazine as PGI may still possess as of the Effective Date (“Eltoprazine Inventory”).
- 2.5 Right to Reference/Assistance. PGI shall provide Amaranthus with the right to access and/or reference in connection with its regulatory filings, all documentation, filings and other materials relevant to Licensed Compound(s) documentation owned or controlled by PGI and in its possession or to which PGI otherwise has reasonable access as of the Effective Date.
- 2.6 Notices Regarding Solvay License. PGI agrees to promptly provide a copy of this Agreement to Solvay after the Effective Date. PGI agrees to provide a written evidence of such notice to Amaranthus immediately after such notice to Solvay.

3.0 PGI and Amaranthus Obligations Including Diligence Obligations Required by Solvay, VA Licenses

- 3.1 Amaranthus shall use commercially reasonable efforts to conduct testing of the Licensed Compound and to develop, manufacture, have manufactured, register and commercialize, by itself or through sublicensing efforts, the Licensed Product in the Territory. “Commercially reasonable efforts” as used herein shall mean such reasonable, diligent, good faith efforts of Amaranthus to accomplish such objective as generally would be used in the pharmaceutical industry by companies of like size and available resources to accomplish a similar objective, for a product owned by it or to which it has rights, which is of similar market potential at similar stage in its development or product life, taking into account issues of safety and efficacy, product profile, the competitiveness of the marketplace, the proprietary position of the Licensed Compound or Licensed Product, the regulatory structure involved, the profitability of the applicable products, and other relevant factors. Commercially reasonable efforts shall be mutually determined on a market-by-market basis and Licensed Product-by-Licensed Product basis, and it is anticipated that the level of efforts will change over time, reflecting changes in the status of the Licensed Product and the market involved, provided, however, such commercially reasonable efforts shall in any event require that Amaranthus shall (i) promptly assign responsibility for such obligations to specifically identified and sufficiently qualified and experienced employees and consultants who are held accountable for progress and monitor such progress on an ongoing basis and report in writing at regular intervals in accordance to the Development Plan, (ii) set and consistently seek to achieve specific and meaningful objectives for carrying out such obligations in accordance to the Development Plan, and (iii) consistently implement decisions taken by it and allocate available human, financial and organizational resources designed to advance progress towards each of these objectives. Amaranthus shall regularly, clearly, and in reasonable detail record evidence of compliance with each items (i) through (iii) above in research and development plans, laboratory and other logbooks, reports, and other normally used documentation in the pharmaceutical business all in accordance with standard scientific procedures. Without limiting the generality of Amaranthus’ effort obligations under this Section 3.1, Amaranthus shall forthwith at the appropriate time (A) apply for all reasonable Regulatory Approvals in the Major Countries following completion of all appropriate clinical trials and (B) make the first commercial sale of the Licensed Products in the Major Countries as soon as commercially feasible following the issuance of the Regulatory Approvals required for the manufacturing, distribution, marketing, sale and use of the Licensed Products in the respective Major Country and if appropriate, the completion of reimbursement negotiations. If, in any particular country of the Major Countries, Amaranthus, or as the case may be its Affiliates or Sublicensees, to PGI’s sole reasonable discretion at any time during the term of this Agreement, fail to use commercially reasonable efforts to develop, make, have made, use, offer for sale, sell, import and export Licensed Products, PGI shall be entitled to make the license granted pursuant to Section 2.1 of this Agreement in such country non-exclusive or shall have the right to terminate the license as to such country, both upon written notice to Amaranthus unless Amaranthus shall have taken material steps to cure any deficiency in such efforts which have been specified in such written notice. If the Parties are in disagreement whether commercially reasonable efforts have been used, and the Parties are unable to reach amicable agreement on such issues after involving its respective upper management, then the matter shall be submitted for resolution pursuant to the mechanism set forth in Section 13. In the event of a determination that a Party has failed to use reasonable commercial efforts, the only legal remedy for such a determination shall be conversion of the license in the applicable countries of the Territory to a non-exclusive right, or termination of the applicable license, as provided herein, unless the Party failing to use commercially reasonable efforts shall promptly have undertaken material steps to cure such deficiency.
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- 3.2 Within one hundred twenty (120) days after the Effective Date Amarantus shall submit to PGI Amarantus' Development Plan along the main principles set forth in Exhibit B defining the matter referred to in Section 3.1(i)-(ii) hereinabove for approval which shall not be unreasonably withheld or delayed. Failure of PGI to respond within thirty (30) business days shall be deemed approval. Amarantus shall reasonably include in its Development Plan any reasonable comments PGI may have. Any update of the Development Plan shall be subject to PGI's prior written approval, which will not be unreasonably withheld or delayed beyond thirty (30) business days after which the update shall be deemed approved. Amarantus shall submit to PGI a copy of any Development Plan received by Amarantus under any sublicense agreement subject to reasonable confidentiality restrictions requested by the Sublicensee.
- 3.3 PGI shall reasonably cooperate with Amarantus to assist in the transfer of PGI Know-How and the transition of development efforts following the Effective Date for up to six (6) months without any cost to Amarantus save for reasonable traveling, boarding and food expenses required in connection with PGI personnel related travel at Amarantus' request. At Amarantus' reasonable request thereafter, PGI will reasonably assist consistent with its personnel resources with further Know-How transfer and implementation thereof subject to Amarantus agreeing to pay PGI its standard fees with respect thereto.
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3.4 Royalty Reporting. After the first commercial sale in the Territory, Amarantus shall furnish PGI with quarterly reports of all Net Sales of Licensed Products under this Agreement. Each such quarterly report shall (i) be furnished to PGI together with payment of royalties in accordance with Section 4.4 within thirty (30) days after the close of the calendar quarter to which it corresponds or forty-five (45) days with respect to reporting and payment pursuant to any sublicense; and (ii) state Amarantus', its Affiliates' and applicable Sublicensees' total revenues from sales of the Licensed Products, broken down by country, during the calendar quarter, the Net Sales derived by Amarantus, its Affiliates and its licensees from such sales, the royalties payable by Amarantus to PGI with respect to such Net Sales pursuant to Section 4.4 of this Agreement, the calculations that determine the royalty due hereunder, the exchange rate used, all other information necessary to account for and accurately compute all compensation due PGI under this Agreement. The amounts shown due in such report shall accompany the report in accordance with Section 4.10. In addition, commencing as of the calendar year following the date of the first commercial sale in the Territory, Amarantus shall provide PGI within thirty (30) days, or forty-five (45) days with respect to comparable reporting by any Sublicensee, after the close of a calendar year with a summary of its marketing activities performed in the Major Countries in the previous calendar year and its marketing plans and a sales forecast for that calendar year.

3.5 Amarantus will be responsible for all additional product development and regulatory activities, and all product development and associated costs for Licensed Products.

4.0 Financial Terms. Amarantus shall make payments to PGI in accordance with the following:

4.1 Upfront Payment. In consideration for the rights and licenses granted by PGI to Amarantus under this Agreement, Amarantus shall pay to PGI a signing fee of [*] US dollars (US\$ [*]), payable within twenty (20) business days after the Effective Date.

4.2 Research and Inventory Payments.

- a. Amarantus shall partially reimburse PGI for the costs incurred in earlier research and management of CIAS, ADHD and levodopa induced dyskinesia (LID) clinical trials with a research support payment, payable within twenty (20) business days after the Effective Date, of [*] US dollars (US\$ [*]), comprising either all cash, or cash and up to [*] US dollars (\$[*]) worth of restricted Amarantus shares whose value shall be determined using the volume weighted share price for the twenty day period immediately preceding the Effective Date in accordance with the Securities Purchase Agreement to be entered into by the Parties.

[*] Certain information on this page has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portion.

- b. Amaranthus shall reimburse PGI for the Eltoprazine Inventory and PGI's optimization of the manufacturing process for Eltoprazine in an amount equal to [*] dollars (\$[*]) payable upon (i) initiation of a Phase IIb clinical study, or (ii) upon six (6) months after the Effective Date, whichever occurs first; provided that pursuant to Section 2.4, PGI shall have delivered to Amaranthus the Eltoprazine Inventory previously made and stored in compliance with specifications previously provided to Amaranthus.

4.3 Milestones. In addition to the payments specified in Sections 4.1 and 4.2 hereof and as further consideration for the rights and licenses granted by PGI to Amaranthus under this Agreement, Amaranthus shall make the following milestone payments to PGI:

- (i) Upon successful completion of the first phase IIb clinical study: [*] US dollars (US\$ [*]); and
- (ii) Upon submission of a New Drug Application ("NDA") to the United States Food and Drug Administration or an equivalent agency if the first comparable submission is made outside the U.S.: [*] US dollars (US\$ [*]).
- (iii) For purposes of clarification, if the lead Licensed Compound is discontinued for any reason and a backup Licensed Compound developed in its stead, the milestone payments will resume where those from the lead Licensed Compound were discontinued such that each milestone payment shall only be due and paid once by Amaranthus under this Agreement.

4.4 Royalties on Amaranthus Net Sales. As further consideration for the rights and licenses granted by PGI to Amaranthus under this Agreement, Amaranthus shall pay royalties to PGI equal to [*] percent ([*]%) of the annual worldwide aggregate Net Sales by Amaranthus, its Affiliates and Sublicensees. In countries (i) in which the Licensed Product is not covered by a Valid Claim, or, (ii) such Licensed Product has Generic Competition in such country and further provided such generics in the aggregate achieve a market share in wholesale unit volume of at least [*] percent ([*]%) in such country, the applicable royalty rate for Licensed Products sold in such country shall be half the rate that would be applicable otherwise.

4.5 Milestone Reporting. Amaranthus shall inform PGI as soon as possible of a milestone having been met, however not later than within five (5) days following the occurrence of the milestone event or the reporting by a Sublicensee of the occurrence of such milestone event. Milestone payments are to be paid within thirty (30) days after Amaranthus' receipt of an invoice issued by PGI for such milestone payment.

4.6 Payments Non-Refundable. Except as provided in Section 7.3.3, all fees payable by Amaranthus to PGI under this Article 4 hereof are non-refundable upon expiration or termination of this Agreement for any reason whatsoever. None of the fees paid by Amaranthus to PGI under Sections 4.1, 4.2 and 4.3 may be credited against any of Amaranthus' payment obligations under Sections 4.4 hereof.

[*] Certain information on this page has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portion.

- 4.7 Sublicense Participation Payments. In case Amaranthus grants sublicenses under the license granted under Section 2.1 hereof, Amaranthus shall make to PGI a participation payment of any lump sum, periodic or other consideration (other than royalties on Net Sales) received by Amaranthus from Sublicensees in consideration of the grant of such sublicense including, but not limited to, advance royalties, sublicensing fees, marketing rights, or other consideration paid for the authorization to use the Licensed Patents and/or promote PGI Know-How to develop, manufacture, have manufactured, market, distribute, advertise, promote, use, sell or offer for sale Licensed Products but excluding any Research Support payment amounts received as (i) payment reasonably allocable to grants of rights to technology owned or controlled by Amaranthus other than the Licensed Technology; (ii) consideration for the supply of products or other materials provided by Amaranthus to the Sublicensee; and (iii) payment for the sale of substantially all of the business or assets of Amaranthus (whether by merger, sale of stock, or sales of assets or otherwise) to which this Agreement pertains. For the avoidance of doubt, the foregoing clause (iii) shall not apply in the event all or substantially all of the business or assets of Amaranthus is limited to only eltoprazine and associated intellectual property. The participation payment shall be [*] percent ([*]%) for any sublicenses granted after the Effective Date. For the avoidance of doubt, the foregoing obligation shall not apply in respect of any sums received from Sublicensees on which Amaranthus has paid or is obliged to pay royalties pursuant to Section 4.4 hereof, but shall be creditable against the milestone payments in Section 4.3.
- 4.8 Royalty Term. Royalty payments under Section 4.4 shall be made on a country-by-country and a Licensed Product-by-Licensed Product quarterly basis until the later of (i) expiration or other termination of all Licensed Patents containing one or more Valid Claims in such country that would be infringed by the manufacture, formulation, importation, use or sale of Licensed Products in such country, or (ii) ten (10) years after the date of first commercial sale of such Licensed Product in the respective country.
- 4.9 Currency Conversion. All payments by Amaranthus to PGI under this Agreement shall be paid in US Dollars to the bank account details as set forth in **Exhibit C**. In the event that any consideration or Net Sales invoiced by Amaranthus, its Affiliates or its Sublicensees are received in any currency other than U.S. dollars, for purposes of calculating the consideration or royalties payable by Amaranthus under Sections 4.3, 4.4 and 4.7 hereof, such amounts shall be converted into U.S. dollars at the rate of exchange between the currency in which such Net Sales were received and the U.S. dollar prevailing rate as set by Citibank, NA at noon on the last day of the calendar quarter in which such amounts or Net Sales were received by Amaranthus, its Affiliates or its Sublicensees.
- 4.10 Timing of Payments. Royalties and participation payments, payable under Sections 4.4 and 4.7 shall be paid on a calendar quarterly basis. Each payment by Amaranthus due under Sections 4.4 and 4.7 shall be paid within thirty (30) days after the close of the calendar quarter to which it corresponds or sixty (60) days after the close of the calendar quarter to which it corresponds with respect to reporting and payment pursuant to any sublicense.

[*] Certain information on this page has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portion.

4.11 Late Payments. In the event that any fee payable by Amarantus under this Agreement is not paid to PGI on or before the due date therefore, as specified herein, the unpaid overdue amount shall bear interest, at a rate equal to the LIBOR rate plus four (4) percentage points, or at the maximum interest rate permitted by law, whichever is lower.

4.12 Taxes. All payments by Amarantus to PGI under this Agreement shall be paid in full, without deduction for any sales, use, excise or other similar taxes. All payments are exclusive of value added tax, which shall if applicable, be invoiced separately. In the event that Amarantus is required to withhold any taxes on any amount payable to PGI hereunder, under the applicable laws of any country within the Territory, Amarantus shall at PGI's request use all commercially reasonable efforts to obtain and furnish PGI with official tax receipts, or other evidence of payment of such withholding taxes, sufficient to permit PGI to demonstrate the payment of such withholding taxes, in order to establish PGI's right to a credit for such withholding taxes against PGI's income tax liability. Amarantus shall provide PGI, with all assistance reasonably requested by PGI in connection with any application to any competent tax authorities in any country within the Territory to qualify for the benefit of a reduced rate of withholding taxation under any applicable Double Tax Treaty.

4.13 Reports and Audits. For the term of this Agreement and for a term of five (5) years after a quarterly report under Section 3.4 above is due, Amarantus (or its applicable Affiliate or Sublicensee(s)) shall maintain complete and accurate books and records of account, in accordance with generally accepted accounting principles, of all transactions and other business activities under this Agreement, sufficient to confirm the accuracy of all reports furnished by Amarantus to PGI under Section 3.4 hereof which accuracy shall be confirmed by certification from an authorized officer of Amarantus, and all payments by Amarantus to PGI under this Article 4.0. Upon reasonable written notice to Amarantus an independent, certified public accountant of international repute, designated by PGI and reasonably acceptable to Amarantus, and under standard confidentiality obligations to Amarantus, shall have the right once per calendar year to audit such previously unaudited (by PGI) books and records of account of Amarantus, solely in order to confirm the accuracy and completeness of all such reports and all such payments. PGI shall bear all costs and expenses incurred in connection with any such audit; provided, however, that if any such audit reveals a variance of four percent (4%) or more between the total amount of payments actually due and the amount of payments made to PGI, then, in addition to paying the full amount of such underpayment, plus accrued interest in accordance with Section 4.11 hereof, Amarantus shall reimburse PGI for all such external costs and expenses reasonably incurred.

4.14 Only One Royalty Payable. No more than one royalty shall be paid per unit of Licensed Product regardless of the number of patents, which may be deemed to cover such Licensed Product, or the number of countries involved in its manufacture, use and/or sale.

5.0 Improvements; Patent Prosecution and Costs; Additional Veteran's Administration License Terms; Data and Improvement Sharing

- 5.1 First Right for Co-Marketing per Solvay License. In the event that Amaranthus shall need a marketing partner in any particular country for Licensed Product intended to be commercialized in such country, Solvay shall have the first right to negotiate for co-marketing or co-promoting rights in such country(ies) provided that Solvay can demonstrate that it has a significant presence in such country and the capacity to fully exploit such Licensed Product(s) to the target population. Amaranthus will provide Solvay with thirty (30) days' notice of its need of a marketing partner, and if Amaranthus and Solvay do not enter into good faith term sheet negotiations within such thirty day period, Amaranthus shall be free to negotiate with any other third party marketing partner.
- 5.2 Improvements. As between the Parties, all right, title and interest to inventions and improvements made by or on behalf of Amaranthus in the course of conducting activities under this Agreement (solely or jointly with PGI) and all intellectual property rights therein, including any Amaranthus Know-How and Amaranthus Patents, shall be solely owned by Amaranthus, and PGI hereby assigns to Amaranthus all right, title and interest in and to any and all such inventions and improvements.
- 5.3 Prosecution; Maintenance. PGI shall be responsible, using counsel of its choice, for preparing, prosecuting and maintaining the PGI Licensed Patents and for maintaining the Veteran's Administration Licensed Patents ("Prosecution Activities") during the Term of this Agreement. Amaranthus shall reimburse PGI for all Third Party costs and expenses associated with such Prosecution Activities (the "Prosecution Costs") incurred by PGI during the Term which are associated with reasonable Prosecution Activities in the Territory. PGI shall keep Amaranthus reasonably apprised of all material written correspondence to and from the relevant patent offices governing rights in the Territory in a manner to permit Amaranthus to comment thereon. PGI shall take into due and reasonable consideration all such comments and shall incorporate same as determined in its sole discretion, exercised reasonably, prior to submitting its correspondence, submissions and filing to the patent offices with respect to PGI Licensed Patents and, shall relay to the Veteran's Administration such comments with respect to Veteran's Administration Licensed Patents. If PGI determines to abandon any claims of any Licensed Patent anywhere in the Territory, then PGI shall provide Amaranthus with notice at least sixty (60) days prior to the date such abandonment would become effective. In such event, to the extent PGI has the right to authorize Amaranthus to do so, Amaranthus shall have the right, at its option, to control the prosecution and maintenance of such claims at its own expense.
- 5.4 Veteran's Administration License Requirements. In addition to diligence and other rights and requirements set forth in the VA License, a copy of the relevant terms of which has been separately provided to Amaranthus and which Amaranthus hereby acknowledges, the following provisions are included herein as required by the VA for all Licensed Products for which the sublicensed Veteran's Administration Licensed Patents are pertinent and such are to be further included in any further sublicenses granted by a Sublicensee:
- 5.4.1 VA reserves on behalf of the Government an irrevocable, nonexclusive, nontransferable, royalty-free license to practice Veteran's Administration Licensed Patents or have Veteran's Administration Licensed Patents practiced throughout the world by or on behalf of the Government and on behalf of any foreign government or international organization pursuant to any existing or future treaty or agreement to which the Government is a signatory. In the exercise of this license, the Government shall not publicly disclose trade secrets or commercial or financial information that is privileged or confidential within the meaning of 5 U.S.C. §552(b)(4) or which would be considered as such if it had been obtained from a non-Federal party.
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- 5.4.2 Amarantus agrees that products used or sold in the United States embodying Licensed Products or produced through use of a VA licensed process shall be manufactured substantially in the United States, unless a written waiver is obtained in advance from VA or Amarantus can demonstrate that under the circumstances domestic manufacture is not commercially feasible.
- 5.4.3 If applicable, VA retains the right in exceptional circumstances, and in the event that Veteran's Administration Licensed Patents are Subject Inventions made under a CRADA, the Government, pursuant to 15 U.S.C. §3710a(b)(1)(B), to require Amarantus to grant to a responsible applicant a nonexclusive, partially exclusive, or exclusive sublicense to use the Veteran's Administration Licensed Patents in the Field on terms that are reasonable under the circumstances, or if Amarantus fails to grant this license, the Government retains the right to grant the license itself. The exercise of these rights by the Government shall only be in exceptional circumstances and only if the Government determines:
- 5.4.3.1 the action is necessary to meet health or safety needs that are not reasonably satisfied by Amarantus;
 - 5.4.3.2 the action is necessary to meet requirements for public use specified by Federal regulations, and these requirements are not reasonably satisfied by Amarantus; or
 - 5.4.3.3 Amarantus has failed to comply with an agreement containing provisions described in 15 U.S.C. §3710a(c)(4)(B); and
 - 5.4.3.4 The determination made by the Government under this Paragraph 5.4 is subject to administrative appeal and judicial review under 35 U.S.C. §203(2).

For clarity, to the extent that Amarantus does not have the right to grant sublicenses under the Veteran's Administration Licensed Patents to a Sublicensee, then PGI will grant such license to the applicable Sublicensee on behalf of Amarantus; provided that no additional consideration will be due PGI with respect to such license.

5.5 Data and Improvement Sharing Outside Territory. PGI shall obtain and grant and hereby grants to Amaranthus the exclusive, non-royalty bearing right in the Territory under Eltoprazine-related data and improvements (including its use or manufacture) generated or developed in the Asian Territory during the Term by or on behalf of PGI to make, have made, use, sell, offer for sale, and import Licensed Products, and to otherwise practice and exploit such data and improvements in the Territory, and in reciprocity, Amaranthus shall grant and hereby grants to PGI the exclusive, non-royalty bearing right in the Asian Territory under Eltoprazine-related data and improvements (including its use or manufacture) generated or developed in the Territory during the Term by or on behalf of Amaranthus to make, have made, use, sell, offer for sale, and import Licensed Products, and to otherwise practice and exploit such data and improvements in the Asian Territory, provided that Amaranthus will be granted a right to the return of all rights to such data and improvements granted in the Asian Territory in the event the applicable license in the Asian Territory which includes rights to such data and improvements is terminated.

6.0 Patent Enforcement and Defense.

6.1 Infringers. Each Party shall inform the other promptly in writing of any alleged infringement of any of Licensed Patents by a Third Party, including all details then available. Amaranthus or its Sublicensee, if any, shall have the first right exercisable in its discretion, but shall not be obligated, to prosecute at its own expense any such infringement relating to the PGI Licensed Patents. PGI shall cooperate fully by joining as a party plaintiff at its own expense if required to do so by law to maintain such action and by executing and making available such documents as may reasonably be requested. No settlement, consent judgment or other voluntary final disposition of the suit which raises any adverse consequences upon the PGI Licensed Patents or the revenue PGI may be entitled to receive hereunder may be entered into without PGI's explicit prior written consent, which shall not be unreasonably withheld or delayed. A delay beyond thirty (30) days shall be considered consent.

6.1.1 Infringement of Third Party Rights.

Defense of Third Party Claims. If a Third Party asserts that a patent or other right owned by it is infringed by the manufacture, use, sale, offer for sale or import of any Licensed Compound or Licensed Product in the Territory, the Party first obtaining knowledge of such a claim shall immediately provide the other Party notice of such claim along with the related facts in reasonable detail. In such event, unless the Parties otherwise agree, Amaranthus or its Sublicensee, if any, shall have the first right, but not the obligation, to control such defense with respect to such Licensed Compound or Licensed Product, in which case PGI shall cooperate with Amaranthus at Amaranthus' reasonable request and shall have the right, at its own expense, to be represented separately by counsel of its own choice, *provided* that if the claim relates primarily to the practice of a PGI Licensed Patent licensed to Amaranthus by PGI under this Agreement, then PGI shall have the first right, but not the obligation to defend against any such claim, and if such claim relates to a Veteran's Administration Licensed Patent or Solvay Licensed Patent then the applicable terms in the respective agreements pertaining to such Licensed Patents shall govern, and Amaranthus shall cooperate at PGI's reasonable request, in such defense and shall have the right, at its own expense, to be represented by counsel of its own choice. If either Party fails to accept control of the defense of a claim for which it has the first right to control defense hereunder within thirty (30) days after receiving or giving notice thereof to the other Party to this Section, then the other Party shall have the right, but not the obligation, to defend against such claim. The Party that does not control defense of a claim hereunder shall cooperate with the controlling Party, at the controlling Party's reasonable request and expense, in any such defense and shall have the right, at its own expense, to be represented by counsel of its own choice.

Settlement of Third Party Claims. The Party that controls the defense of a given claim with respect to Licensed Compound or Licensed Product shall also have the right to control settlement of such claim; *provided, however*, that no settlement shall be entered into without the prior consent of the other Party if such settlement would adversely affect the rights and benefits of, or impose or adversely affect any obligations on, the other Party.

6.1.2 Recoveries. Recoveries or reimbursements from infringement actions shall be distributed as follows: (i) Amarantus and PGI shall be reimbursed for their respective litigation costs; (ii) any remaining recoveries or reimbursements shall be retained by Amarantus and shall be subject to payment of royalties pursuant to Article 4 hereof as if the retained recovery or reimbursement were Net Sales by Amarantus.

6.1.3 Right to Pursue. If PGI has not taken legal action based on PGI Licensed Patents, within one hundred twenty (120) days of written notification from Amarantus of infringement thereof, or if PGI elects not to continue prosecuting any legal action against an infringer of PGI Licensed Patents, Amarantus shall have the right, but shall not be obligated, to prosecute at its own expense such infringement, and PGI may join Amarantus as a plaintiff at the expense of PGI. In any infringement action so commenced or continued by Amarantus, all recoveries shall be distributed as described in Section 6.1.2.

6.2 Declaratory Judgment/Oppositions. Subject to the provisions of Section 6.1, if any declaratory judgment, opposition or other legal action alleging invalidity or non-infringement of any of the Licensed Patents, shall be brought against either Party (solely or together with the other Party), then each Party shall be responsible for controlling the defense of its respective Licensed Patents at its expense but shall reasonably consider input from the other Party. If one Party elects not to defend, then the other Party, at its expense, may take over the defense for such Party.

6.3 Amarantus Enjoined. If Amarantus is threatened, enjoined or otherwise prohibited from making, having made, importing, exporting, using, offering for sale or selling any Licensed Product as a result of alleged infringement of a Third Party patent in any country of the Territory, then (i) Amarantus shall be excused from any commercially reasonable efforts required in connection with such Licensed Product and shall have the immediate right to cease making, using or selling the Licensed Product in the applicable country; and (ii) Amarantus shall have the right to delete such country from the Territory on ten (10) days prior written notice and upon such deletion shall have no further right under applicable Licensed Patents and PGI Know-How to make, use and sell Licensed Product in such deleted country.

6.4 Cooperation. PGI and Amarantus agree to cooperate in any patent infringement, opposition or in any reissue or reexamination proceedings related to the Licensed Patents and to make their respective employees, documents and records available as needed on a timely basis. PGI agrees to fully cooperate with Amarantus at its request in having PGI Licensed Patents listed in the FDA Orange Book. Each Party shall bear its own costs incurred in any opposition, re-issue or re-examination proceeding the Licensed Patents, unless expressly agreed otherwise in this Agreement.

7.0 Term; Termination.

7.1 Term. Unless terminated earlier pursuant to this Article 7.0, the term of this Agreement shall commence on the Effective Date and continue in full force and effect, on a country-by-country and Licensed Product-by-Licensed Product basis, until the expiration of the last applicable Royalty Term for all Licensed Products in all countries (“Term”).

7.2 Right to Terminate.

7.2.1 The Parties may terminate this Agreement by mutual written agreement.

7.2.2 Amarantus shall have the right upon sixty (60) days written notice to terminate its development and/or marketing of Licensed Compounds and Licensed Products hereunder.

7.2.3 Both Parties shall have the right to terminate this Agreement upon sixty (60) days written notice due to material breach by the other Party provided:

- (i) that such written notice specifies the material breach complained of;
- (ii) that such material breach has not been cured, or substantial steps taken to cure such material breach and such is not the subject of a dispute pursuant to Section 14; and
- (iii) for clarity, any such termination shall not be effective until final resolution of any dispute with respect to the applicable breach pursuant to Section 13.0.

7.2.4 Amarantus shall have the right upon five (5) business days written notice to terminate this Agreement if PGI fails to provide notice to Solvay as provided in Section 2.6.

7.3 Effect of Termination

7.3.1 In the event of termination by Amarantus pursuant to Section 7.2.2 or termination by PGI pursuant to Section 7.2.3, and upon thirty (30) days written notice from PGI to Amarantus regarding PGI's intent to continue development and/or commercialization of Licensed Products in the Territory, Amarantus shall grant to PGI a worldwide, fully paid up, non-exclusive right and license under and to all Amarantus Patents and Amarantus Know-How to develop, make, have made, use, sell, offer for sale, import and export Licensed Compounds and Licensed Products in the Territory.

7.3.2 In the event of a termination under Section 7.2 and PGI does not exercise its rights to continue development and/or commercialization under Section 7.2.1, then this Agreement shall fully terminate save for any payment obligations accruing before, and remaining unpaid at, the effective date of termination and save for any obligations which by their terms survive termination.

7.3.3 In the event of a termination under Section 7.2.4, then PGI shall refund to Amarantus any payments made by Amarantus pursuant to Sections 4.1 or 4.2 as of the date of termination.

8.0 Confidentiality. Each Party agrees to keep confidential and not to use, except for the purposes of this Agreement, information from the other which is identified as Confidential or which under the circumstances would be commonly understood to be confidential. These obligations of confidentiality and non-use shall continue at all times during the Term of this Agreement and for seven (7) years thereafter but shall not apply to information which (i) is in the public domain by use and/or publication before its receipt from the disclosing Party; (ii) was already in the receiving Party's possession prior to receipt from the disclosing Party as evidenced by its prior physical records; (iii) becomes part of the public domain subsequent to its receipt from the disclosing Party other than by breach by the receiving Party hereunder; (iv) is required to be disclosed by court order; or (v) is properly obtained by the receiving Party from a Third Party which has a valid right to disclose such information to the receiving Party without an attached confidentiality obligation.

9.0 Representations and Warranties:

9.1 PGI makes the following representations and warranties with respect to this Agreement:

9.1.1 Corporate Power and Authorization: PGI represents and warrants that it is duly organized, validly existing and in good standing under the laws of the State of Delaware, that it has full corporate power and authority to enter into this Agreement and to carry out its provisions, and that there are no outstanding agreements, assignments, or encumbrances in existence that are inconsistent with the provisions of this Agreement.

- 9.1.2 Licensed Activity: PGI represents and warrants that **Exhibit A** includes a complete list of all relevant PGI Licensed Patents with respect to Licensed Compound(s), that it has full and complete right, title and interest to such patents and that there are and have been no conflicting claims with respect to ownership thereof; and that all inventors thereof have assigned their full right, title and interest thereto to PGI.
- 9.1.3 Enforceable. To the best of PGI's knowledge, the PGI Licensed Patents have been maintained during their full patent term and are not invalid or unenforceable, in whole or in part except to the extent they have reached the end of their term and that PGI owns the PGI Licensed Patents and has the right to enforce same.
- 9.1.4 Diligence. To the best of PGI's knowledge, as of the Effective Date, PGI has disclosed to Amaranthus all information in PGI's possession regarding Licensed Compound(s) and related PGI Know-How.
- 9.1.5 No Claims. There are no claims, judgments or settlements against or owed by PGI or pending or threatened claims or litigation relating to the PGI Licensed Patents or PGI Know-How.
- 9.1.6 Sublicensed Patents. PGI makes no warranties regarding the validity or enforceability of Solvay Licensed Patents or Veteran's Administration Licensed Patents which PGI has licensed and sublicensed hereunder as it does not own such patents and has not, and does not control the prosecution of patent applications contained therein. However, to the best of its knowledge, PGI possesses no material information which would support a reasonable basis to conclude that any patents or patent applications contained within Solvay Licensed Patents or Veteran's Administration Licensed Patents are invalid or unenforceable.
- 9.2 Amaranthus makes the following representations and warranties with respect to this Agreement:
- 9.2.1 Corporate Power and Authorization: Amaranthus represents and warrants that it is duly organized, validly existing and in good standing under the laws of Nevada, that it has full corporate power and authority to enter into this Agreement and to carry out its provisions, and that there are no outstanding agreements, assignments or encumbrances in existence that are inconsistent with the provisions of this Agreement.
- 9.2.2 Licensed Activity. Amaranthus represents and warrants that it owns or controls the full and complete right, title and interest to Amaranthus Patents and Amaranthus Know-How and can grant the grant-back license rights specified in Section 7.3.1.
- 9.2.3 No Claims. There are no claims, judgments or settlements against or owed by Amaranthus or pending or threatened claims or litigation relating to the Amaranthus which could materially impact its ability to satisfy its obligations under this Agreement.
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9.2.4 No Conflicting Agreements. Amarantus represents and warrants that neither it nor any of its Affiliates is party to any agreement which would be inconsistent with its obligations under this Agreement or which would conflict with this Agreement.

10.0 Liability. Each Party warrants that as of the Effective Date hereof it has the right to deliver its respective patents and know-how for licensing to the other Party hereunder and to a Third Party as part of a sublicense and shall indemnify, defend and hold the other Party and its Indemnitees harmless against any breach of such warranty and any claims arising out of its actions or failure to act under this Agreement. For this indemnity to be effective, the Party requesting indemnification must provide to the indemnifying Party timely knowledge of any such claim and the full opportunity to defend against such claim. EACH PARTY RECOGNIZES THAT THE LICENSED PATENTS AND KNOW-HOW ARE SUPPLIED "AS IS" AND ARE PROVIDED WITHOUT WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED. EACH PARTY ACKNOWLEDGES THAT THE NEW THERAPEUTIC APPLICATIONS FOR ELTOPRAZINE ARE UNPROVEN, THAT IT MAY FAIL PRE-CLINICAL OR CLINICAL DEVELOPMENT, MAY NOT SUCCEED IN THE MARKETPLACE AND THAT THE COMBINED INTELLECTUAL PROPERTY PACKAGE MAY BE UNLICENSABLE OR MAY NOT PROTECT LICENSED PRODUCTS IN THE MARKETPLACE AND THAT THE TERMS OF ANY LICENSE TO A THIRD PARTY MAY DEVIATE SUBSTANTIALLY FROM THOSE WHICH MAY BE ANTICIPATED BY THE PARTIES. PGI MAKES NO WARRANTY THAT THE LICENSED PATENTS COMPRISE ALL THE PATENTS THAT MAY BE NEEDED REGARDING ANY LICENSED PRODUCT, ITS MANUFACTURE OR USE FOR ANY PARTICULAR INDICATION. Amarantus recognizes that a breach of the provisions of the respective licenses to the Solvay Licensed Patents and the Veteran's Administration Licensed Patents by Amarantus as sublicensee could result in loss of the respective Licensed Patents or rights to use related data. Each Party agrees that neither Party shall have any liability to the other for special, consequential or punitive damages or for lost profits. Notwithstanding anything herein to the contrary, neither Party shall have any liability to the other in excess of any amount it has received or paid under this Agreement.

10.1 Amarantus shall defend, indemnify and hold PGI, Solvay, and the VA, its employees, students, fellows, agents, and consultants harmless from and against all liability, demands, damages, expenses, and losses, including but not limited to death, personal injury, illness, or property damage resulting from Third Party claims in connection with or arising out of:

- (a) the use by or on behalf of Amarantus, its Sublicensees, directors, employees, or Third Parties of any Licensed Patents or PGI Know-How; or
 - (b) the design, development, testing, manufacture, distribution, or use of any Licensed Products, processes or materials by Amarantus, or other products or processes developed in connection with or arising out of the Licensed Patents.
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- 11.0 Survival. The provisions of Sections 7.3, 8, and 10-20 and all definitions relating thereto shall survive termination or expiration of this Agreement.
- 12.0 Notices. Any notices required or provided by the terms of this Agreement shall be in writing, addressed in accordance with this paragraph, and shall be delivered personally or sent by certified or registered mail, return receipt requested, postage prepaid or by nationally-recognized express courier services providing evidence of delivery. The effective date of any notice shall be the date of first receipt by the receiving Party. Notices shall be sent to the address first given above or to such other address/addressee as the Party to whom notice is to be given may have provided to the other Party in writing in accordance with this provision.
- | | |
|--------------------------|-------------------|
| <u>If to PGI:</u> | President and CEO |
| With copy to: | General Counsel |
| <u>If to Amaranthus:</u> | President |
| With copy to: | General Counsel |
- 13.0 Governing Law/Dispute Resolution. This Agreement shall be construed in accordance with the laws of The State of New York, and the patent laws of the respective country granting the patent in question, without reference to provisions of conflicts of laws. Any dispute between the parties arising under or in connection with this Agreement shall be submitted to the exclusive jurisdiction of the competent courts of the Second Circuit sitting in New York City, NY, for all matters in the event that the Parties' respective Presidents are unable to resolve the dispute within sixty (60) days after a written invitation by one to the other to do so.
- 14.0 Entire Agreement. This Agreement, together with the Exhibits attached hereto and specifically referenced herein, Master Services Agreement, Ancillary Agreement and Securities Purchase Agreement constitute the entire agreement between the Parties with respect to the subject matter set forth herein and supersede and replace any and all previous arrangements and understandings, whether oral or written, between the Parties. The Parties acknowledge that this Agreement is subject to the applicable terms of the Solvay License and the VA License as expressly provided for in this Agreement. Any amendment or modification to this Agreement shall be of no effect unless made in a writing signed by an authorized representative of each Party.
- 15.0 Publicity/Use of Names. The Parties shall as soon as practicable after the Effective Date issue a press release substantially of the form set forth in **Exhibit D** hereto. In addition, the Parties shall have the right to make public announcements regarding material developments concerning Licensed Products. Except as aforesaid, no disclosure of the terms of this Agreement may be made by either Party, and no Party shall use the name of the other Party without the prior express written permission of the other Party, except as may be required by law and except that each Party shall have the right to identify the other and the general nature of this Agreement in order to facilitate the purposes hereof but in such case no information shall be provided publicly with respect to the financial terms except as permitted above.
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- 16.0 Assignment. Amarantus may not assign its rights (other than the right to receive money) or obligations under this Agreement without the prior written consent of PGI. Any such purported assignment shall be void except that Amarantus shall have the right to assign without prior consent to an Affiliate or entity acquiring all or substantially all the business to which this Agreement pertains. PGI may not assign its rights (other than the right to receive money) or obligations under this Agreement without the prior written consent of Amarantus. Any such purported assignment shall be void except that PGI shall have the right to assign without prior consent to an Affiliate or entity acquiring all or substantially all the business to which this Agreement pertains. In any assignment, the assignor shall guarantee the performance of the assignee to the other Party hereto.
- 17.0 Severability. The provisions of this Agreement are severable, and if any provisions hereof shall be determined to be invalid or unenforceable by a court of competent jurisdiction, the remaining provisions shall continue in full force and effect.
- 18.0 Force Majeure. Neither Party shall be liable to the other or deemed in default hereunder for failure or delay in fulfilling its obligations hereunder when such failure or delay is due to causes beyond the control of the Party including without limitation, acts of God; war; civil commotion; terrorism; destruction of facilities by fire, flood, earthquake or storm; labor disturbances; epidemic; and failure of public utilities or common carriers. The Party so affected shall give notice to the other Party and to the extent reasonably possible shall use reasonable efforts to minimize the duration of any *force majeure*.
- 19.0 Independent Contractor. The relationship between PGI and Amarantus is one of independent contractor and not one of partnership, principal and agent, employer and employee, joint ventures or otherwise. Neither Party shall have the power or right to bind or obligate the other.
- 20.0 First Right of Offer. PGI agrees that Amarantus shall have the first right to offer to buy out PGI's rights in Eltoprazine and Licensed Technology in the Territory under terms to be negotiated in good faith subject to the restrictions in applicable license agreements including the Solvay License, the VA License and 2nd Restated and Amended Agreement Between PsychoGenics Inc. and ReqMed Company, Ltd. dated August 31, 2003 concerning the Asian Territory.

Signature page follows

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representatives, effective as of the date of the last signature set forth below.

Amarantus Bioscience Holdings, Inc.

PGI Drug Discovery LLC

BY: /s/ Gerald Commissiong
Gerald Commisiong

BY: /s/ Emer Leahy
Emer Leahy

TITLE: President

TITLE: President

DATE: January 10, 2014

DATE: January 9, 2014

Exhibit A

LICENSED PATENTS

PGI Licensed Patents

Treatment for Attention-Deficit Hyperactivity Disorder

<u>K&S DOCKET NO.</u>	<u>COUNTRY</u>	<u>INVENTOR(S), TITLE APPLICATION SERIAL NO. AND FILING DATE</u>	<u>STATUS</u>
13565-105003	U.S.	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 60/306,825 FILING DATE: July 20, 2001	<u>EXPIRED</u> Provisional - Converted
13565-105003US1	U.S.	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 60/382,931 FILING DATE: May 23, 2002	<u>EXPIRED</u>
13565-105003US2	U.S.	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 10/199,634 FILING DATE: July 19, 2002	<u>GRANTED PATENT</u> U.S. Patent No. 7,504,395, issued on March 17, 2009. Patent will expire on July 19, 2022 September 17, 2012 - paid September 17, 2016 - 7.5 year maintenance fee due September 17, 2020 - 11.5 year maintenance fee due

K&S DOCKET NO.	COUNTRY	INVENTOR(S), TITLE APPLICATION SERIAL NO. AND FILING DATE	STATUS
13565- 105003US3 (CON)	U.S.	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 11/219,416 FILING DATE: September 2, 2005	<u>GRANTED PATENT</u> U.S. Patent No. 7,557,109, issued on July 7, 2009. Patent will expire on July 19, 2022 January 7, 2013 - paid January 7, 2017 - 7.5 year maintenance fee due January 7, 2021 - 11.5 year maintenance fee due
13565- 105003US4 (CON)	U.S.	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 12/344,051 FILING DATE: December 24, 2008	<u>ABANDONED</u> April 26, 2010 - Office Action received. September 14, 2010 - Instructions from client to abandon application and file Continuation September 20, 2010 - Extension of time filed to file Continuation application December 22, 2010 - Notice of Abandonment
13565- 105003US5 (CON)	U.S.	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 12/885,822 FILING DATE: September 20, 2010	<u>ABANDONED</u> September 20, 2010 - Continuation application filed in USPTO October 7, 2010 - Filing Receipt and Notice of Acceptance of Power of Attorney received from the USPTO January 14, 2011 - Notice of Publication (US 2011-0008425) February 18, 2011 - Nonfinal Rejection issued. Response due May 18, 2011. Stat Date is August 18, 2011. August 16, 2011 - Extension of Time filed for filing a Continuation application September 29, 2011 - Notice of Abandonment

K&S DOCKET NO.	COUNTRY	INVENTOR(S), TITLE APPLICATION SERIAL NO. AND FILING DATE	STATUS
13565-105003US6 (CON)	U.S.	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 13/210,474 FILING DATE: August 16, 2011	<u>ABANDONED</u> August 16, 2011 - Continuation application filed August 31, 2011 - Filing Receipt and Missing Parts Notice issued. November 30, 2011 - Response to Missing Parts filed December 13, 2011 - Updated Filing Receipt received March 22, 2012- Notice of Publication (US 20120070494) June 19, 2012 - Nonfinal Rejection January 17, 2013 - Notice of Abandonment
13565-105003PC	WO	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: PCT/US02/23081 FILING DATE: July 19, 2002	<u>NATIONAL STAGE ENTERED</u> in Australia, Canada, Europe, Hong Kong and Japan
13565-105003AU	Australia	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 2002322539 FILING DATE: July 19, 2002	<u>GRANTED PATENT</u> Patent No. 2002322539 issued on January 10, 2008. Patent expires on July 19, 2022 Next annuity due July 19, 2014
13565-105003AU1 (DIV)	Australia	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 2007254677 FILING DATE: July 19, 2002	<u>GRANTED PATENT</u> Patent No. 2007254677 issued on February 25, 2010. Patent expires on July 19, 2022 Next annuity due July 19, 2014

K&S DOCKET NO.	COUNTRY	INVENTOR(S), TITLE APPLICATION SERIAL NO. AND FILING DATE	STATUS
13565-105003CA	Canada	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 2,453,837 FILING DATE: July 19, 2002	<u>GRANTED PATENT</u> Patent No. 2,453,837 issued on October 4, 2011. Patent expires on July 19, 2022 Next annuity due July 19, 2014
13565-105003CH	Switzerland	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 02756536.5 FILING DATE: July 19, 2002	<u>GRANTED PATENT</u> Patent No. 1408976, issued on March 11, 2009. Patent expires on July 19, 2022 Next annuity due July 19, 2014
13565-105003DE	Germany	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 02756536.5 FILING DATE: July 19, 2002	<u>GRANTED PATENT</u> Patent No. 1408976, issued on March 11, 2009. Patent expires on July 19, 2022 Next annuity due July 19, 2014
13565-105003DK	Denmark	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 02756536.5 FILING DATE: July 19, 2002	<u>GRANTED PATENT</u> Patent No. 1408976, issued on March 11, 2009. Patent expires on July 19, 2022 Next annuity due July 19, 2014

K&S DOCKET NO.	COUNTRY	INVENTOR(S), TITLE APPLICATION SERIAL NO. AND FILING DATE	STATUS
13565-105003EP	Europe	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 02756536.5 FILING DATE: July 19, 2002	<u>GRANTED PATENT</u> Patent No. 1408976, issued on March 11, 2009. Patent expires on July 19, 2022 EP Patent validated in: Denmark, France, Germany, Great Britain Ireland, Italy, Spain, Sweden, Switzerland, and the Netherlands Received communication from EPO re allowance of limitation to EP patent. September 1, 2010 - European Patent Certificate received
13565-105003EP1	Europe	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 08173141.6 FILING DATE: July 19, 2002	<u>ABANDONED APPLICATION</u> June 23, 2010 - agent instructed EPO to proceed with the application. September 29, 2010 - Examination Report received. Response due April 2, 2011 (including 2 month extension of time) July 6, 2011 - instructions from client not to take any action to re-instate the application
13565-105003ES	Spain	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 02756536.5 FILING DATE: July 19, 2002	<u>GRANTED PATENT</u> Patent No. 1408976, issued on March 11, 2009. Patent expires on July 19, 2022 Next annuity due July 19, 2014
13565-105003FR	France	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 02756536.5 FILING DATE: July 19, 2002	<u>GRANTED PATENT</u> Patent No. 1408976, issued on March 11, 2009. Patent expires on July 19, 2022 Next annuity due July 19, 2014
13565-105003GB	Great Britain	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 02756536.5	<u>GRANTED PATENT</u> Patent No. 1408976, issued on March 11, 2009. Patent expires on July 19, 2022 Next annuity due July 19, 2014

FILING DATE: July 19, 2002

K&S DOCKET NO.	COUNTRY	INVENTOR(S), TITLE APPLICATION SERIAL NO. AND FILING DATE	STATUS
13565-105003HK	Hong Kong	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 04108300.4 FILING DATE: October 21, 2004	<u>GRANTED PATENT</u> Patent No. 1065478, issued on August 7, 2009. Patent expires on July 19, 2022 Next annuity due July 19, 2014
13565-105003HK1	Hong Kong	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 09105434.4 FILING DATE: October 21, 2004	<u>ABANDONED APPLICATION</u> Validation of HK Application based on EP 08173141.6
13565-105003IE	Ireland	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 02756536.5 FILING DATE: July 19, 2002	<u>GRANTED PATENT</u> Patent No. 1408976, issued on March 11, 2009. Patent expires on July 19, 2022 Next annuity due July 19, 2014
13565-105003IT	Italy	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 02756536.5 FILING DATE: July 19, 2002	<u>GRANTED PATENT</u> Patent No. 1408976, issued on March 11, 2009. Patent expires on July 19, 2022 Next annuity due July 19, 2014

K&S DOCKET NO.	COUNTRY	INVENTOR(S), TITLE APPLICATION SERIAL NO. AND FILING DATE	STATUS
13565-105003JP	Japan	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 2003-513563 FILING DATE: July 19, 2002	<u>GRANTED PATENT</u> Patent No. 5080716, issued on September 7, 2012. Patent expires on July 19, 2022 April 27, 2010 - Response to Refusal Notification filed. July 7, 2010 - Response and a claim Amendment and a Demand for an Appeal Trial filed. October 5, 2010 - Notification of Termination of Pre-Trial Reexamination by the Examiner received indicating that the case has been removed from examination and forwarded to Appeal Examiner. November 1, 2011 - Questioning issued by the Japanese Patent Office January 30, 2012 - Response to Questioning filed August 29, 2012 - Associate encloses favorable Trial Decision August 31, 2012 - Annual Fee paid September 7, 2012 - Patent Issued Next annuity due September 7, 2015
13565-105003NL	Netherlands	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 02756536.5 FILING DATE: July 19, 2002	<u>GRANTED PATENT</u> Patent No. 1408976, issued on March 11, 2009. Patent expires on July 19, 2022 Next annuity due July 19, 2014
13565-105003SE	Sweden	INVENTOR(S): Daniela Brunner and Daniel W. Goodman TITLE: TREATMENT FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER SERIAL NO: 02756536.5 FILING DATE: July 19, 2002	<u>GRANTED PATENT</u> Patent No. 1408976, issued on March 11, 2009. Patent expires on July 19, 2022 Next annuity due July 19, 2014

Treatment for Neurological and Mental Disorders

K&S DOCKET NO.	COUNTRY	INVENTOR(S), TITLE APPLICATION SERIAL NO. AND FILING DATE	STATUS
13565-105010	U.S.	INVENTOR(S): Emer Leahy and Mark Day TITLE: Treatment for Neurological and Mental Disorders SERIAL NO: 61/057,713 FILING DATE: May 30, 2008	<u>EXPIRED</u> Provisional - Converted
13565-105010US1	U.S.	INVENTOR(S): Emer Leahy and Mark Day TITLE: Treatment for Neurological and Mental Disorders SERIAL NO: 12/472,509 FILING DATE: May 27, 2009	<u>ABANDONED</u> September 3, 2010 - Restriction Requirement issued. October 1, 2010 - Response to Restriction filed. Species election (PD) filed February 8, 2011. May 31, 2011 - Nonfinal Rejection issued November 23, 2011 - Extension of Time filed to file Continuation application January 20, 2012 - Notice of Abandonment
13565-105010US2 (CON)	U.S.	INVENTOR(S): Emer Leahy and Mark Day TITLE: Treatment for Neurological and Mental Disorders SERIAL NO: 12/942,408 FILING DATE: November 9, 2010	<u>ABANDONED</u> - November 9, 2010 - Continuation application filed (claims directed to combinations for schizophrenia treatment) November 24, 2010 - Filing Receipt issued. Awaiting further action from the USPTO March 3, 2011 - Notice of Publication (US 2011-0053956) January 20, 2012 - Office Action issued. June 29, 2012 - instructions from client to abandon application September 14, 2012 - Notice of Abandonment rec'd

K&S DOCKET NO.	COUNTRY	INVENTOR(S), TITLE APPLICATION SERIAL NO. AND FILING DATE	STATUS
13565-105010US3 (CON)	U.S.	INVENTOR(S): Emer Leahy and Mark Day TITLE: Treatment for Neurological and Mental Disorders SERIAL NO: 13/303210 FILING DATE: November 23, 2011	<u>PENDING APPLICATION</u> November 23, 2011 - Continuation application filed (CON of 12/472,509) December 12, 2011 - Filing Receipt and Notice to File Missing Parts issued. March 22, 2012 - Notice of Publication (US 2012/0071495) July 11, 2012 - Response to Missing Parts and Preliminary Amendment filed September 12, 2012 - Restriction Requirement rec'd November 12, 2012 - Response to RR filed January 9, 2013 - Nonfinal Rejection. July 7, 2013 – Response filed August 7, 2013 Final Rejection issued – Response deadline February 7, 2014
13565-105010PC	WO	INVENTOR(S): Emer Leahy and Mark Day TITLE: Treatment for Neurological and Mental Disorders SERIAL NO: PCT/US2009/045221 FILING DATE: May 27, 2009	<u>NATIONAL STAGE ENTERED</u> in Australia, Canada, China, Europe, Japan, and Korea
13565-105010AU	Australia	INVENTOR(S): Emer Leahy and Mark Day TITLE: Treatment for Neurological and Mental Disorders SERIAL NO: 2009255333 FILING DATE: May 27, 2009	<u>PENDING APPLICATION</u> November 12, 2010 - National phase application filed. Annuity due May 27, 2014 Awaiting first Examiner's Report

K&S DOCKET NO.	COUNTRY	INVENTOR(S), TITLE APPLICATION SERIAL NO. AND FILING DATE	STATUS
13565-105010CA	Canada	INVENTOR(S): Emer Leahy and Mark Day TITLE: Treatment for Neurological and Mental Disorders SERIAL NO: 2,725,356 FILING DATE: May 27, 2009	<u>PENDING APPLICATION</u> November 23, 2010 - National phase application filed. Annuity due May 27, 2014 May 27, 2014 - Request for Examination deadline.
13565-105010CN	China	INVENTOR(S): Emer Leahy and Mark Day TITLE: Treatment for Neurological and Mental Disorders SERIAL NO: 200980122051.9 FILING DATE: May 27, 2009	<u>ABANDONED</u> Application abandoned in favor of divisional application
13565-105010CN1 (DIV)	China	INVENTOR(S): Emer Leahy and Mark Day TITLE: Treatment for Neurological and Mental Disorders SERIAL NO: 201210289775.5 FILING DATE: May 27, 2009	<u>PENDING APPLICATION</u> August 15, 2012 - Divisional application filed October 21, 2013 – First office action issued– Response due – February 21, 2014

K&S DOCKET NO.	COUNTRY	INVENTOR(S), TITLE APPLICATION SERIAL NO. AND FILING DATE	STATUS
13565-105010EP	Europe	INVENTOR(S): Emer Leahy and Mark Day TITLE: Treatment for Neurological and Mental Disorders SERIAL NO: 09759052.5 FILING DATE: May 27, 2009	<p><u>PENDING APPLICATION</u></p> <p>July 7, 2010 - European application filed (Claims directed to Eltoprazine or a pharmaceutically acceptable acid addition salt thereof for use in treating a neurological or mental disorder, for treating hyperactivity, for inattention and impulsivity)</p> <p>August 23, 2011 - Supplementary European Search Report issued.</p> <p>February 22, 2012 - Instructions to EP associate that client wants to take advantage of further processing</p> <p>April 12, 2012 - Notice of Loss of Rights issued</p> <p>June 22, 2012 - Response and request to reinstate application filed</p> <p>July 16, 2012 – Request for further processing allowed</p> <p>November 13, 2013 – Examination Report issued –Response due March 13, 2014</p> <p>Annuity due May 27, 2014</p>

K&S DOCKET NO.	COUNTRY	INVENTOR(S), TITLE APPLICATION SERIAL NO. AND FILING DATE	STATUS
13565-105010EP1	Europe	INVENTOR(S): Emer Leahy and Mark Day TITLE: Treatment for Neurological and Mental Disorders SERIAL NO: 10172550.5 FILING DATE: May 27, 2009	<u>ABANDONED</u> August 11, 2010 - Divisional application filed (claims directed to movement disorders associated with Parkinson's disease). September 8, 2011 - Extended Search Report issued March 27, 2012 - Instructions to associate to allow application to lapse but client may want to request further processing May 22, 2012 - Notice of Loss of Right issued failure to pay Designation Fee/Examination Fee July 25, 2012 - instructions from client to abandon application; instructions to associate to abandon application September 12, 2012 - Application abandoned
13565-105010HK	Hong Kong	INVENTOR(S): Emer Leahy and Mark Day TITLE: Treatment for Neurological and Mental Disorders SERIAL NO: 11112413.1 FILING DATE: May 27, 2009	<u>ABANDONED</u> Abandoned in view of Chinese application being abandoned
13565-105010HK1	Hong Kong	INVENTOR(S): Emer Leahy and Mark Day TITLE: Treatment for Neurological and Mental Disorders SERIAL NO: 13111097.4 FILING DATE: May 27, 2009	<u>PENDING APPLICATION</u> September 27, 2013 – Application filed based on CN 201210289775.5

K&S DOCKET NO.	COUNTRY	INVENTOR(S), TITLE APPLICATION SERIAL NO. AND FILING DATE	STATUS
13565-105010JP	Japan	INVENTOR(S): Emer Leahy and Mark Day TITLE: Treatment for Neurological and Mental Disorders SERIAL NO: 2011-511764 FILING DATE: May 27, 2009	<u>PENDING APPLICATION</u> November 16, 2010 - Japanese application filed. May 21, 2012 - Request for Examination filed. November 7, 2013 – Notification of Refusal issued – Response due February 7, 2014
13565-105010KR	Korea	INVENTOR(S): Emer Leahy and Mark Day TITLE: Treatment for Neurological and Mental Disorders SERIAL NO: 2010-7029297 FILING DATE: May 27, 2009	<u>PENDING APPLICATION</u> December 27, 2010 - Korean application filed. May 27, 2014 - Request for Examination deadline
13565-105010TW	Taiwan	INVENTOR(S): Emer Leahy and Mark Day TITLE: Treatment for Neurological and Mental Disorders SERIAL NO: 098117941 FILING DATE: May 30., 2008	<u>PENDING APPLICATION</u> March 16, 2010 - Application published May 22, 2012 - Request for Examination filed. December 11, 2013 – Office Action issued – Response due March 11, 2014

Pharmacological Treatment of Parkinson's Disease (Wolf applications)

Assigned to: The U.S. Government as represented by the Dept. of Veteran's Affairs; exclusively licensed to PsychoGenics

K&S DOCKET NO.	COUNTRY	INVENTOR(S), TITLE APPLICATION SERIAL NO. AND FILING DATE	STATUS
13565-105017	U.S.	INVENTOR(S): William Wolf TITLE: Pharmacological Treatment of Parkinson's Disease SERIAL NO: 60/777,939 FILING DATE: February 28, 2006	<u>EXPIRED</u> Provisional - Converted
13565-105017	U.S.	INVENTOR(S): William Wolf TITLE: Pharmacological Treatment of Parkinson's Disease SERIAL NO: 11/713,156 FILING DATE: February 28, 2007	<u>PENDING APPLICATION</u> July 15, 2010 - RCE and Amendment and Response filed April 1, 2011 - Status inquiry filed October 3, 2013 – Nonfinal Rejection issued – Response deadline – April 3, 2014
13565-105017	U.S.	INVENTOR(S): William Wolf TITLE: Pharmacological Treatment of Parkinson's Disease SERIAL NO: 12/730,972 FILING DATE: March 24, 2010	<u>PENDING APPLICATION</u> March 24, 2010 - Continuation application filed April 2, 2010 - Filing Receipt July 15, 2010 - Notice of Publication (US 2010/0179171) December 20, 2010 - IDS filed April 2, 2012 - Power of Attorney filed. October 3, 2012 - Nonfinal Rejection rec'd April 3, 2013 – Response filed May 2, 2013 – Supplemental Response filed July 9, 2013 – Final Rejection issued January 7, 2014 – Response, RCE and IDS filed Awaiting further action from USPTO

LID Combinations: Eltoprazine Combinations For The Treatment Of L-DOPA-Induced Dyskinesia And Parkinsons Disease

K&S DOCKET NO.	COUNTRY	INVENTOR(S), TITLE APPLICATION SERIAL NO. AND FILING DATE	STATUS
13565-105019	U.S.	INVENTOR(S): Emer Leahy, David Lowe, Paul McGonigle and Bavani Shankar TITLE: Eltoprazine Combinations For The Treatment Of L-Dopa-Induced Dyskinesia And Parkinsons Disease SERIAL NO: 61/434,707 FILING DATE: January 20, 2011	<u>ABANDONED</u> January 20, 2011 - Provisional application filed. February 19, 2011 - Filing Receipt issued. January 11, 2012 - Instructions from client to abandon application
13565-105019US1	U.S.	INVENTOR(S): Emer Leahy, David Lowe, Paul McGonigle and Bavani Shankar TITLE: Eltoprazine Combinations For The Treatment Of L-Dopa-Induced Dyskinesia And Parkinsons Disease SERIAL NO: 61/434,990 FILING DATE: January 21, 2011	<u>ABANDONED</u> January 21, 2011 - Provisional application filed. February 24, 2011 - Filing Receipt issued. January 11, 2012 - Instructions from client to abandon application

**Treatment of Motor and Movement Disorder Side Effects
Associated with Parkinson's Disease Treatments**

K&S DOCKET NO.	COUNTRY	INVENTOR(S), TITLE APPLICATION SERIAL NO. AND FILING DATE	STATUS
13565-105025	U.S.	INVENTOR(S): Emer Leahy and Bavani Shankar TITLE: Treatment of Motor and Movement Disorder Side Effects Associated with Parkinson's Disease Treatments SERIAL NO: 61/658,401 FILING DATE: June 11, 2012	<u>EXPIRED</u> June 11, 2012 - Provisional application filed. June 28, 2012 - Filing Receipt issued.
13565-105025US1	U.S.	INVENTOR(S): Emer Leahy and Bavani Shankar TITLE: Treatment of Motor and Movement Disorder Side Effects Associated with Parkinson's Disease Treatments SERIAL NO: 13/911,639 FILING DATE: June 6, 2013	<u>PENDING APPLICATION</u> June 6, 2013 – U.S. application filed July 8, 2013 – Filing Receipt rec'd December 12, 2013 – Notice of Publication issued (US2013-0331399) Awaiting action from USPTO
13565-105025PC	WO	INVENTOR(S): Emer Leahy and Bavani Shankar TITLE: Treatment of Motor and Movement Disorder Side Effects Associated with Parkinson's Disease Treatments SERIAL NO: PCT/US2013/44509 FILING DATE: June 6, 2013	<u>PENDING APPLICATION</u> June 6, 2013 – PCT application filed December 11, 2014 – 30 month national stage filing

Solvay Licensed Patents

K&S DOCKET NO.	COUNTRY	INVENTOR(S), TITLE APPLICATION SERIAL NO. AND FILING DATE	STATUS
Solvay Patents	US	INVENTOR(S): Hartog et al TITLE: Bibyclic Heteroacrylpiperazine Derivatives having psychotropic Activity, and pharmaceutical Compositions containing these Derivatives PATENT NO: 5,424,313 FILING DATE: Oct 12, 1993	<u>EXPIRED PATENT</u> Claims earliest priority to US 06/810,094, filed December 18, 1985, now abandoned. Issued June 13, 1995 Expired on June 13, 2012

**CERTIFICATION PURSUANT TO
RULE 13a-14(a) OR RULE 15d-14(a) OF THE
SECURITIES EXCHANGE ACT OF 1934**

I, Gerald Commissiong, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Amaranthus BioScience Holdings, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under my supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 14, 2014

/s/ Gerald Commissiong
Gerald Commissiong
Chief Executive Officer
(Principal Executive Officer)

**CERTIFICATION PURSUANT TO
RULE 13a-14(a) OR RULE 15d-14(a) OF THE
SECURITIES EXCHANGE ACT OF 1934**

I, Robert Farrell, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Amaranthus BioScience Holdings Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under my supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 14, 2014

/s/ Robert Farrell

Robert Farrell
Chief Financial Officer
(Principal Financial Officer)

**CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER AND PRINCIPAL FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350 AS ADOPTED PURSUANT TO SECTION 906 OF THE
SARBANES-OXLEY ACT OF 2002**

Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, I, Gerald Commissiong, the Chief Executive Officer of Amaranthus BioScience Holdings, Inc. (the "Company"), hereby certify, that, to my knowledge:

1. The Quarterly Report on Form 10-Q for the quarter ended June 30, 2014 (the "Report") of the Company fully complies with the requirements of Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934; and
2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: August 14, 2014

/s/ Gerald Commissiong
Gerald Commissiong
Chief Executive Officer
(Principal Executive Officer)

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER AND PRINCIPAL FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350 AS ADOPTED PURSUANT TO SECTION 906 OF THE
SARBANES-OXLEY ACT OF 2002

Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, I, Robert Farrell, the Chief Financial Officer of Amaranthus BioScience Holdings, Inc. (the "Company"), hereby certify, that, to my knowledge:

1. The Quarterly Report on Form 10-Q for the quarter ended June 30, 2014 (the "Report") of the Company fully complies with the requirements of Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: August 14, 2014

/s/ Robert Farrell

Robert Farrell
Chief Financial Officer
(Principal Financial Officer)