

July 15, 2014



# Amarantus Announces Positive Clinical Performance and 7-Year Longitudinal Data Poster Presentations for LymPro Test (R) at AAIC 2014

SAN FRANCISCO and GENEVA, July 15, 2014 (GLOBE NEWSWIRE) --[Amarantus Bioscience Holdings, Inc.](#) (OTCQB:AMBS), a biotechnology company focused on the discovery and development of novel diagnostics and therapeutics related to endoplasmic reticulum stress, cell cycle dysregulation, neurodegeneration and apoptosis, today announced positive clinical performance data for Version 2 of the Company's proprietary cell cycle dysregulation diagnostic blood assay LymPro Test®, currently under development for Alzheimer's disease diagnosis. The LymPro Test clinical data package assessed was produced in 2008 at Provista Life Sciences. The 7-year longitudinal patient record clinical progression assessment data was conducted by Dr. Marwan Sabbagh at the Banner Sun Health Research institute who originally enrolled the 44 patients involved in the Provista clinical trial, and analyzed by Dr. Louis Kirby, the Company's Chief Medical Officer. LymPro differentially diagnosed Alzheimer's disease versus age-matched other dementias and cognitively intact controls in statistically significant manner. The poster presentations are available online at <https://ir.stockpr.com/amarantus/scientific-publications>.

The 2014 assessment of LymPro Test improved over time vs. the original 2008 diagnosis in a statistically significant manner across all univariate and multivariate models evaluated based upon the updated longitudinally assessed diagnosis. Further, the overall accuracy of LymPro Version 2 improved vs. LymPro Version 1 across all univariate and multivariate models evaluated based on the 2012 peer-reviewed publication of Stieler et al in *Neurobiology of Aging*.

"We are extremely pleased to have identified a lead candidate optimization condition for LymPro that demonstrates superiority over the already established Version 1 LymPro assay," said Dr. Louis Kirby, Chief Medical Officer to Amarantus. "New non-invasive diagnostic tools for Alzheimer's disease have emerged as a key deficiency in the field. While the data presented today is based upon a non-analytically-validated assay, the assessment of an underlying disease biology of cell cycle dysregulation seems to have overpowered these deficiencies. Longitudinal assessments of clinical diagnoses are critical for in-life Alzheimer's disease diagnosis, given that only autopsy definitively confirms the diagnosis, therefore making these data sets meaningful in spite of the small sample size. We look forward to completing the currently-enrolling Bridging Study that will vastly expand the Version 2 data package, and sharing top-line results in two weeks at #C4CT."

The Company is currently conducting a Version 1 vs. Version 2 Bridging Study (previously known as the Pilot Study) at BD Biosciences comparing Alzheimer's patients to cognitively

intact, aged-matched controls to assess LymPro's accuracy in a head to head comparison across various univariate measurements and multivariate models. The study will provide the basis for the establishment of initial sensitivity and specificity in Version 1 and Version 2 of LymPro in the newly-analytically controlled LymPro conditions established at BD Biosciences. The Company expects to release topline Bridging Study data at the #C4CT Concussion Awareness Summit: TBI-induced Alzheimer's Disease to be held at the United Nations on July 31<sup>st</sup>.

"We are pleased that the LymPro program is maturing at its current pace," said Gerald E. Commissiong, President & CEO of Amarantus. "We believe that we are accurately able to measure a fundamental Alzheimer's disease biology with LymPro, and therefore may be able to improve the current diagnostic paradigm in Alzheimer's disease. Abnormal cell cycle re-entry is continuing to gain traction as a key component of the overall disease biology of Alzheimer's disease, linking directly to amyloid plaque depositions and toxic tau hyperphosphorylation. Given that we are measuring disease biology, we are focused on the assay validation required to commercialize LymPro, and thereafter continue further development in a commercial environment. We look forward to developing larger and more robust data sets in that they will further enhance LymPro's predictive value in a commercial environment so that robust data findings may be immediately translated into clinical practice for pharmaceutical companies and key opinion physicians conducting research. We are pleased these initial clinical performance and longitudinal assessments conducted by Amarantus corroborate the published findings and provide the basis for Amarantus to further invest in LymPro's development, and look forward to sharing additional data in two weeks at #C4CT."

### **About LymPro**

The Lymphocyte Proliferation Test (LymPro Test ®) is a diagnostic blood test that measures the ability of peripheral blood lymphocytes to withstand an external stimulation inducing them to enter the cell cycle. It is hypothesized that certain diseases are the result of a compromised cellular machinery that leads to aberrant cell cycle re-entry by neurons. The inventive step for LymPro that makes a unique asset involves using peripheral blood lymphocytes (PBLs) as a surrogate for neuronal cell function, suggesting a common immune-based relationship between PBLs and neurons in the brain. LymPro Test ® is currently being developed as a diagnostic blood test for Alzheimer's disease and is being evaluated as a diagnostic blood test for Traumatic Brain injury and Chronic Traumatic Encephalopathy.

### **About Alzheimer's Disease**

It is estimated that over 5.4 million people in the United States suffer from Alzheimer's disease and over 500,000 patients are diagnosed annually, with nearly one in eight older Americans affected by the disease. Alzheimer's is the third leading cause of death in the United States. The estimated cost of unpaid care in the United States is estimated at over \$210 billion annually and the total payments for care are estimated at over \$200 billion annually, including \$140 billion in cost to Medicare and Medicaid. It is estimated that the cost to the United States will exceed \$1.4 trillion by 2050.

### **About #C4CT**

The Coalition for Concussion Treatment (#C4CT) was founded in 2012 by former NFL player Jack Brewer, CEO of Brewer Sports International and Gerald Commissiong, President and CEO at Amaranthus BioScience Holdings, Inc. with the goal of bringing together those who are directly affected by TBI-induced neurodegenerative diseases with world class researchers, scientists and industry leaders whom are actively working towards identifying and developing innovative TBI treatment opportunities. #C4CT serves as a platform to spread awareness about concussions and the severe effects of Traumatic Brain Injury (TBI). Through a global campaign uniting people who are passionate about the cause, #C4CT fosters the critical discussions and partnerships needed to enhance research, treatment efforts and prevention. Please visit [www.c4ctsummit.com](http://www.c4ctsummit.com) for further details.

### **About Amaranthus BioScience Holdings, Inc.**

Amaranthus BioScience Holdings (AMBS) is a biotechnology company developing treatments and diagnostics for diseases associated with neurodegeneration and protein misfolding-related apoptosis. AMBS has licensed Eltoprazine ("Eltoprazine"), a phase 2b ready small molecule indicated for Parkinson's Levodopa induced dyskinesia and Adult ADHD. AMBS has an exclusive worldwide license to the Lymphocyte Proliferation test ("LymPro Test(R)") for Alzheimer's disease and owns the intellectual property rights to a therapeutic protein known as Mesencephalic-Astrocyte-derived Neurotrophic Factor ("MANF") and is developing MANF-based products as treatments for brain disorders. AMBS also owns intellectual property for the diagnosis of Parkinson's disease ("NuroPro") and the discovery of neurotrophic factors ("PhenoGuard"). Amaranthus operations are located at Janssen Labs @QB3 in San Francisco, CA. For further information please visit [www.Amaranthus.com](http://www.Amaranthus.com), or connect with the Company on [Facebook](#), [LinkedIn](#), [Twitter](#) and [Google+](#).

Certain statements, other than purely historical information, including estimates, projections, statements relating to our business plans, objectives, and expected operating results, and the assumptions upon which those statements are based, are forward-looking statements." These forward-looking statements generally are identified by the words "believes," "project," "expects," "anticipates," "estimates," "intends," "strategy," "plan," "may," "will," "would," "will be," "will continue," "will likely result," and similar expressions. Forward-looking statements are based on current expectations and assumptions that are subject to risks and uncertainties which may cause actual results to differ materially from the forward-looking statements. Our ability to predict results or the actual effect of future plans or strategies is inherently uncertain. Factors which could have a material adverse effect on our operations and future prospects on a consolidated basis include, but are not limited to: changes in economic conditions, legislative/regulatory changes, availability of capital, interest rates, competition, and generally accepted accounting principles. These risks and uncertainties should also be considered in evaluating forward-looking statements and undue reliance should not be placed on such statements.

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Source: Amaranthus BioScience Holdings, Inc.