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## Developing a blood metabolite HMT biomarker for Major Depression Disorder (MDD)

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Depression is the leading cause of disability worldwide, affecting about 121 million people in the United States. WHO predicts that it will be the second most common global burden of disease by the year 2020. However, the diagnosis and treatment of depression can be elusive and difficult. Many depressed patients would benefit from objective biological information to determine their condition prior to referral to a therapist. PCPs are only able to recognize about half of the patients with clinical depression while 20% of non-depressed people are falsely diagnosed as depressed. There is a large unmet need for additional diagnostic tests for patient referrals and therapeutic effectiveness. To develop a blood biomarker for MDD, HMT (Human Metabolome Technologies) profiled 538 plasma metabolites from 34 clinically depressed subjects and 38 demographically matched non-depressed subjects. Results identified a potential biomarker, ethanamine phosphate (EAP). The study was repeated on 241 patients showing patients with MDD had specifically lower plasma concentrations of EAP, as well as, showing severity-dependent behavior. The diagnostic ability of EAP was further confirmed in a single-blinded independent validation group. HMT has transferred the discovery test to a specific blood CoDx assay to measure the level of EAP and we are studying environmental and circadian influences on EAP levels as well.

### Biography

Alexander M Buko received his PhD in 1980 from the University of Virginia under Professor Donald F Hunt. He went onto work at the Bureau of Biologics and Biophysics (Today called CBER) for four years then moved to Abbott Labs for 18 years as a distinguished research fellow. From 2002 to 2012, he was Sr. Director Translational Medicine at Biogen Idec. Currently, he is the Vice President of Business and Product Development for HMT-America (Human Metabolome Technologies).

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