



## **PLAXGEN STATIN STUDY PUBLISHED IN CARDIOLOGY JOURNAL Identifies New Statin Mechanism of Action Regulating Cholesterol Particles Formation**

Fremont, CA—October 3, 2016, Plaxgen, Inc., developing flow cytometry-based blood diagnostics for plaque-associated diseases, such as atherosclerosis and Alzheimer's, announced that research exploring the effect of statins on cholesterol particles formation in human serum samples was published in the peer-reviewed publication, "The American Journal of Cardiology." In the paper, "Non-Enzymatic Mechanism of Statins In Modulating Cholesterol Particles Formation," researchers examined the effect of multiple commercially-available statins on low-density and high-density cholesterol particles formation in blood serum samples using Plaxgen's proprietary Plaque Array platform. The Plaque Array technique combines flow cytometry and particle-targeted proteomics to identify the precise makeup of plaque particles derived from serum.

In this paper, researchers discovered a new nonenzymatic mechanism that modulates particle formation, possibly through direct interaction between statins and cholesterol aggregates, to change particles distribution from low-density lipoproteins (LDL) to high-density lipoproteins (HDL). This discovery of a mechanism that is independent from enzymatic activity holds promise for a better understanding of how statins induce desirable HDL particles formation. It could also be useful in predicting patient response rates to statins. Plaxgen is developing the StatRes™ Test, which predicts patient statin response based on a serum test performed in advance of the first prescription.

While the enzymatic effect of statins on inhibiting cholesterol synthesis in the liver is already well-characterized, it is not fully understood how statins change blood cholesterol composition from low-density lipoproteins to high density. In addition, patient responses differ to different statins, and physicians must currently apply a trial and error approach to find the right match. Besides, 5-20% of patients do not respond to statins at all.

"This important research shows, for the first time, a mechanism-of-action whereby statins interact directly with the cholesterol particle and change its distribution from low-density to high-density particles," said Shanmugavel Madasamy, PhD, lead study author and Plaxgen CEO. "We believe this non-enzymatic mechanism could explain how statins modulate the formation of HDL particles in the plasma, which has never been well-understood, and help in the further development of our StatRes test, that matches patients to statins via a blood test."

“We have shown, for the first time, that there are non-enzymatic mechanisms involved that could have an impact on predicting statin efficacy,” said Alan H.B. Wu, PhD, Professor Laboratory Medicine, University of California, San Francisco; Chief, Clinical Chemistry Laboratory, San Francisco General Hospital, and a co-author of the study. “Until now, the prevailing view of the mechanism of action for statins has been associated to inhibition of HMG-CoA reductase, a key step in the formation of cholesterol.”

“The flow cytometry and serum-based screening assay, if developed further, has a very strong potential to become an assay of choice for screening patients for statin therapy,” said Dr. J. Paul Robinson, PhD, Professor of Biomedical Engineering and Director, Cytometry Laboratories, Purdue University.

To view the paper, please go here: [http://www.ajconline.org/article/S0002-9149\(16\)31244-9/fulltext?rss=yes](http://www.ajconline.org/article/S0002-9149(16)31244-9/fulltext?rss=yes)

#### About Plaxgen

Privately-held Plaxgen is developing diagnostics in atherosclerosis, disease, and other plaque-related diseases, using its proprietary Plaque Array technology. Plaque Array combines flow cytometry to detect and quantify plaque particles, with mass spectrometry to identify their components, including proteins and biomarkers that could help drug developers better target treatments in multiple indications in which plaque formation plays a role. Plaxgen is a CLIA certified medical diagnostic lab and currently focused on commercializing ATHEROLOAD<sup>®</sup> test for atherosclerosis diagnosis, StatRes<sup>®</sup> test using serum to predict a patient’s response to selected statins in advance of the first prescription, and AMYLOAD<sup>®</sup> test for Alzheimer’s disease. Plaxgen’s AMYLOAD<sup>®</sup> Test can discriminate between pathologies in AD patients by identifying the different particle types that play a role in Alzheimer’s disease, important for drug development and treatment matching. Plaxgen holds issued and pending patents on Plaque Array technology.

For more on Plaxgen, please visit our website at: [www.plaxgen.com](http://www.plaxgen.com)

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