**Profiling Apolipoproteins in Disease**

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**Abstract**

Detecting changes in biomarker levels or even the presence of biomarkers in limited samples can be difficult with traditional ELISA techniques. Multiplexing magnetic bead–based assays not only affords much higher sensitivity but also allows for sample conservation by testing for multiple analytes in a single well. In this study, we used an apolipoprotein multiplex panel to screen for some of the traditional apolipoproteins within the statin pathway (Apo A1, Apo A2, Apo B, Apo C1, Apo C3, and Apo E), along with additional targets important for cardiovascular disease, neurobiology, cancer, and inflammation research (Apo D, Apo H, clusterin (Apo J), and C-reactive protein (CRP)). Purchased serum samples representing several different diseases, including atherosclerosis, diabetes mellitus type I, sepsis, Alzheimer’s, and traumatic brain injury (TBI), were diluted 1:50,000. With the exception of CRP levels in some sepsis samples, all readings were within range. We conclude that this technology, and specifically this Apolipoprotein 10-Plex Panel, can be applied to many areas of disease research and requires minimal serum sample to generate robust data.