Chronic inflammation is an important contributor to many cardiovascular diseases, including atherosclerosis. In 2011, atherosclerosis was responsible for 16% of all deaths in the United States. Elevated blood concentration of the inflammatory protein soluble CD14 (sCD14) independently predicts mortality from atherosclerotic cardiovascular disease in older adults. Soluble CD14 exists in at least two molecular weight variants. The role of these molecular weight variants in cardiovascular disease states remains uncertain. This presentation reveals preliminary data from 15 healthy volunteers that demonstrate the potential of this research method. Ultimately, this technique could be used to help quantitate the presence of sCD14 and other inflammatory proteins that are present at multiple molecular weight variants in cardiovascular diseases in large epidemiological studies. This information could lead to a more insightful understanding of the intricate molecular manifestations of complex inflammatory diseases.