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An Introduction to C-Reactive Protein

C-reactive protein is one of the best know members of a group of acute-phase proteins, which increase their concentrations during certain inflammatory disorders. It has widely been used as a bio-marker of inflammation in the body. In recent years CRP has received a lot of attention because of its apparent ties to cardiovascular disease, and it has also been linked to a number of other diseases, including hypertension, diabetes, cancer, and autoimmune disorders.

CRP levels in human serum are normally quite low (around 1 µg/mL), but they increase several hundred fold during the acute-phase response. The intensive study of CRP and cardiovascular health has suggested, however, that CRP levels only slightly above the "healthy" range (i.e. >3 µg/mL) are indicative of increased risk for cardiovascular disease. To facilitate studies on this topic a newer generation of more sensitive CRP immunoassays (hsCRP) was developed, which have lower limits of sensitivity on the order of 1 ng/mL.

CRP is also found in human saliva, and, as is generally true for most salivary analytes, concentrations are much lower than in serum. CRP levels in saliva are often below the useable range of the commercial hsCRP immunoassays. Studies of CRP in saliva have therefore been limited, and they have had to employ various types of non-commerical assays.

Given the growing enthusiasm for salivary testing in general, and the potential that CRP monitoring has for the study of numerous diseases, there is a clear need for a commercial assay with sufficient sensitivity to measure CRP in human saliva. At the urging of a number of researchers, Salimetrics has introduced this new ELISA specifically designed to measure salivary CRP, with a lower detection limit of 10 pg/mL. We acknowledge that answers are still needed to some basic questions, such as how CRP gets into saliva, and how much correlation there is between serum and saliva levels. It is our hope that this new assay will permit basic studies of CRP in saliva to proceed, and that, ultimately, questions about the utility of salivary CRP for the study of various diseases can be addressed.

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