Salimetrics Releases Inflammation and Immune Function Salivary Testing Panels

The Salimetrics Laboratory now offers testing services for a panel of key salivary markers related to inflammation and immune function: IL-1β, IL-6, TNF-α, C-reactive protein, and secretory IgA. In addition to their uses in studies of oral biology, these markers may also be of interest in other fields, including sports physiology, psychobiology, and stress research.

State College, Pennsylvania (PRWEB) August 30, 2012 -- With the recent addition of the Salimetrics salivary kit for the cytokine IL-1β, the Salimetrics Laboratory has now completed a panel of commonly-used biological markers that researchers can use to investigate inflammatory and immune processes. Because cytokines often act in conjunction with each other to influence other downstream biomarkers, researchers frequently prefer to measure groups of cytokines and related biomarkers together. This panel of markers offered by the Salimetrics testing service includes cytokines interleukin-1 beta (IL-1β), interleukin-6 (IL-6), and tumor necrosis factor-alpha (TNF-α); the acute phase protein C-reactive protein (CRP); and secretory IgA (SIgA), an important immunoglobulin used as a marker of mucosal immunity.

IL-1β and TNF-α are two important examples of a class of signaling molecules known as pro-inflammatory cytokines, which play an important role in initiating the body’s inflammatory response to infections, injuries, or stress. IL-6 also functions as a pro-inflammatory mediator, and one of its key functions is the initiation of the inflammatory acute phase response to infections. IL-6 has numerous and varied functions, however, and certain of these can be considered to be anti-inflammatory in nature.

In recent decades, oral biologists and dental researchers have extensively studied IL-1β, IL-6, TNF-α, and related markers in saliva and gingival crevicular fluid in connection with fungal infections, oral cancer, infectious diseases such as gingivitis and periodontitis, and autoimmune diseases such as Sjögren’s syndrome. The current interest in salivary cytokines is illustrated by a recent study that examined the presence of 48 cytokines, chemokines, and growth factors in saliva compared to plasma and urine for healthy human subjects. Saliva was found to have the highest number of the analytes examined, and concentrations of many analytes were found to differ significantly between the fluids. (1) While research using salivary cytokines is growing, correlation with serum has not been confirmed.

Additional studies of mental health and of physical health outside the oral cavity have demonstrated that salivary inflammatory and immune markers are not just of interest to dental researchers and oral biologists. For example, a number of studies have suggested that salivary CRP may be useful in applications such as monitoring risk for heart disease or in diagnosis of heart attacks in emergency room situations. (2,3) Sports physiologists have also been successful in using salivary analytes to study the effects of exercise and stress on inflammation and immune function, as illustrated in a recent paper that utilized salivary measurements of cortisol, chromogranin A, SIgA, IL-1β, IL-6, and TNF-α. (4) Studies have also demonstrated that salivary cytokine levels are altered in certain psychological conditions or vary in response to acute psychological stress. It has therefore been suggested that salivary cytokines may have value as biomarkers in psychobiological research. (5)

References

1. Khan, A. (2012). Detection and quantitation of forty eight cytokines, chemokines, growth factors and


About Salimetrics:

Founded in 1998, Salimetrics, LLC supports researchers, the immunodiagnostic industry, and functional testing laboratories around the world with innovative salivary immunoassay products and services. Salimetrics’ assay kits and CLIA-certified testing services measure biomarkers related to stress, behavior and development, inflammation, and immune function, including: alpha-amylase, androstenedione, blood contamination, chromogranin A, cortisol, cotinine, C-reactive protein, DHEA, DHEA-S, estradiol, estriol, estrone, IL-1b, IL-6, melatonin, progesterone, 17α-hydroxyprogesterone, secretory IgA, testosterone, and TNF-a. Salimetrics also provides salivary DNA analysis. The company is based in State College, Pennsylvania, with offices in the UK and distributors around the world. For more information, visit Salimetrics on the web at http://www.salimetrics.com
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