S@MA

Bioscience



PRODUCT FACTS

SOMA Product Code SOMA LFD - sAA/Cort

Test Kit Contents

amylase and cortisol in

Applications

For the analysis of saliva samples for the quantitative determination of sAA & cortisol when read in the SOMA LFD Reader or Cube Reader. For use in Sport, Exercise, Corporate, Healthcare and Research.

Incubation Time

Sample Volume

Shelf-Life

Storage

Specificity

Specific to secretory sAA and

L.O.D.

L.O.O.

Calibration Range

SOMA sAA / Cortisol Dual Analyte LFD

The SOMA Dual Analyte LFDs contains two test lines for separate analytes that can be measured from the same sample in one scan. This reduces time in gathering data when testing for more than one analyte in a session.

The component parts required for a test are: a SOMA LFD Reader; a SOMA Oral Fluid Collector (OFC) swab and Buffer and a SOMA Dual Analyte LFD cassette, in this case sAA & Cortisol.

Both sAA (salivary alpha-amylase and cortisol can be used to measure acute and chronic responses to stress. The test is very quick to perform as it uses two drops of saliva buffer mix from the SOMA OFC which are placed on the LFD, with a 15 minute incubation time. Two tests lines are created, along with a control line and a quantitative value for both markers is displayed on the reader after the 4 second scanning period.

Monitoring Stress

Research shows that there are two distinct systems involved in the stress response of humans and other animals. The response and activity of both systems can be measured via various biomarkers in saliva. The classic method of characterising a stress response is to measure cortisol levels, which rise due to a series of changes in the hypothalamicpituitary-adrenal (HPA) axis. However, this system can be relatively slow in responding to stress; whilst changes in the sAA response, a marker of the sympathetic nervous system (SNS) activity, is somewhat quicker. It is also well known that chronic stress, with elevated cortisol levels, can lead to immune suppression. With repeated measurements within a day, the diurnal pattern of both markers can be established quickly and conveniently.

Application to Sport

Intense training and competition are known to be responsible for eliciting a catabolic state, which can be assessed by routine monitoring of cortisol levels.

Similarly intense training and competition are also known to cause immune suppression and given that alpha-amylase is also an anti-microbial protein, similar to IgA - fighting viral and bacterial pathogens, levels can become suppressed in intensely trained athletes. The ability to measure both responses in one quick and easy test is of great use to coaches and scientists attempting to establish "readiness to train" indices, to ensure optimal benefit from subsequent training.

Responses to Training &

Competition Phases: 1 Baseline; 2 Intensified Training; 3 Taper; 4 Competition. Stress response in Phase2 more likely physical, while in Phase 4 more likely psychological.



Sinnott-O'Connor et al., (2018) Int. J. Sports Physiolo.. & Perf. 13(7): 1-19.