SALIVARY URIC ACID QUICK START GUIDE

BIOLOGICAL CONSIDERATIONS

Salivary uric acid may be a useful biomarker for stress research and monitoring metabolic syndrome to help mitigate cardiometabolic risk. Several studies have reported that a linear relationship exists between uric acid levels in serum and saliva. Research has also shown that salivary uric acid is associated with significant stress reactivity and recovery. Uric acid is also the most prevalent antioxidant in blood and minimizes the systemic physiological stress of free-radical oxygen species on the body preventing a state known as oxidative stress. When uric acid concentrations are elevated (hyperuricemia), harmful health effects are common. Blood uric acid levels above 7 mg/dl lead to the formation of monosodium urate (MSU) crystals. During sustained hyperuricemia, MSU crystals deposit in tendons and joints to cause severe diseases including gout, kidney stones, and several forms of kidney disease.

Biological Representation	Systemic
Serum-Saliva Correlation	0.84

SAMPLE TIMING AND DESIGN

High consumption of alcoholic beverages (particularly beer), fructose, and diets high in purine-rich foods can alter uric acid levels.

FREQUENTLY STUDIED WITH

Cortisol, CRP, Cytokines, Alpha-Amylase

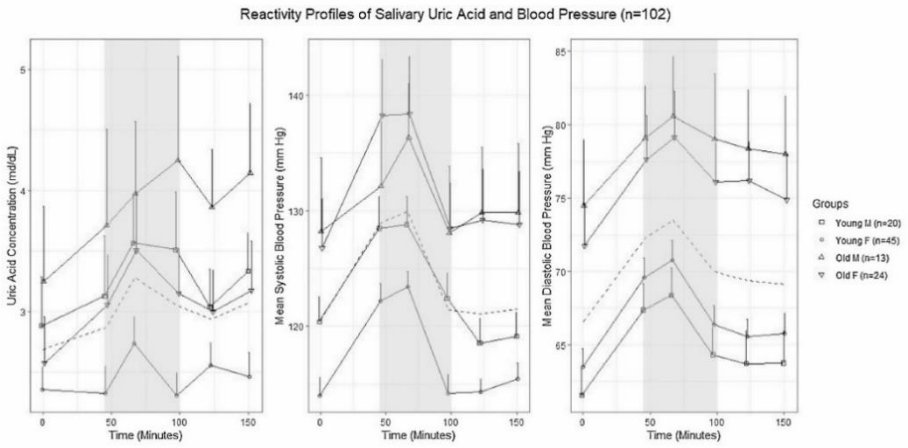
TECHNICAL SUMMARY

Sample Collection Methods & Volumes	
Passive Drool	✓
SalivaBio Swabs	✓
Optimum Collection Volume	150 µL*

*Add 300 µL to the total collection volume for all analytes of interest.

EXAMPLE DATA

Reactivity of salivary uric acid and blood pressure in response to Trier Social Stress Test by age and sex. Shaded area indicates performance phase of the task. Error bars are standard error of the mean. Dashed line represents overall mean at each time point.



*Lucas, T, et al. (2020). Reactivity of salivary uric acid in response to social evaluative stress in African Americans.

KEY RESOURCES

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7. *Lucas, T, et al. (2020). Reactivity of salivary uric acid in response to social evaluative stress in African Americans. Biol Psychol. 153:107882.
8. Riis JL, et al. (2018). The validity, stability, and utility of measuring uric acid in saliva. Biomark Med. 12(6):583-596.