SALIVARY NEOPTERIN QUICK START GUIDE

BIOLOGICAL CONSIDERATIONS

Neopterin is produced by macrophages. Neopterin is a valuable marker of inflammation and the activation of the cell-mediated (Th1-type) immune system. Neopterin levels are also used as a measure of oxidative stress. Neopterin is measurable in healthy human saliva and increased salivary levels have been found in patients with periodontal disease, HIV-1 virus infections, and Sjogren's syndrome.

Production:	Macrophages

SAMPLE TIMING AND DESIGN

Elevated neopterin levels have been associated with infection, cardiovascular disease, autoimmune disease, malignant tumors, psychiatric disorders, sleep-disordered breathing, autistic children, and cognitive decline in Alzheimer's disease.

FREQUENTLY STUDIED WITH

Cytokines, SIgA, Uric Acid, C-Reactive Protein

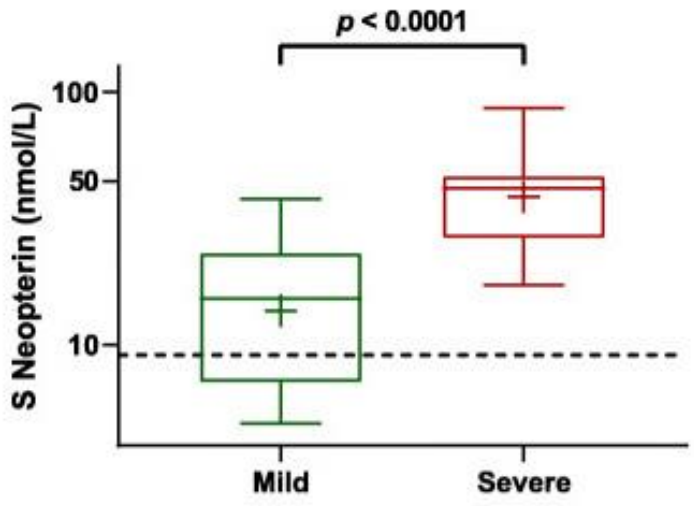
TECHNICAL SUMMARY

Sample Collection Methods & Volumes	
Passive Drool	✓
SalivaBio Swabs	-
Optimum Collection Volume	125 µL*

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

EXAMPLE DATA

Concentrations of first measurements of serum neopterin in patients with mild (green) and severe (red) form of COVID-19 (n = 34). The dashed line represents the upper normal reference limit of neopterin at 9.1 nmol/L.



*Robertson, J., et al. (2020).

KEY RESOURCES

1. Murr, C., Widner, B., Wirleitner, B., Fuchs, D. (2002). Neopterin as a marker for immune system activation. Curr Drug Metab, 3(2), 175-87.
2. Katoh, S., Sueoka, T., Matsuura, S., Sugimoto, T. (1989). Biopterin and neopterin in human saliva. Life Sci, 45(26), 2561-68.
3. Chauhan, A., Chauhan, V. (2006). Oxidative stress in autism. Pathophysiology, 13(3), 171-81.
4. *Robertson, J., et al. (2020). Serum neopterin levels in relation to mild and severe COVID-19. BMC infectious diseases, 20(1), 942.
5. Pradeep, A.R., et al. (2007). Gingival crevicular fluid levels of neopterin in healthy subjects and in patients with different periodontal diseases. J Periodontol, 78(10), 1962-67.
6. Reibnegger, G., Fuchs, D., Zangerle, R., Wachter, H. (1990). Increased neopterin concentration in saliva of patients with HIV-1 infection.
7. Granger, DA, Taylor, MK. (2020). Salivary Bioscience: Foundations of Interdisciplinary Saliva Research and Applications. Springer. https://springer.com/book/10.1007/978-3-030-35784-9