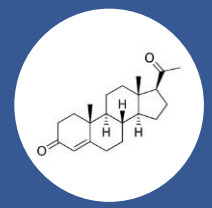# SALIVARY PROGESTERONE QUICK START GUIDE

BIOLOGICAL CONSIDERATIONS

Progesterone (4-pregenene-3,20-dione) is a steroid hormone of primary importance in ovulation, fertility, pregnancy, and menopause. Synthesis of progesterone takes place in the placenta, adrenal glands, and gonads. In addition to its role as a sex hormone, progesterone also serves as a precursor compound for many of the other steroid hormones. Unbound progesterone enters the saliva via intracellular mechanisms, and the majority of progesterone in saliva is not protein-bound.

Biological Representation	Systemic
Serum-Saliva Correlation	0.80

SAMPLE TIMING AND DESIGN

In normal non-pregnant women during the mid-luteal phase of the menstrual cycle, progesterone exhibits a prominent circadian rhythm with additional ultradian components. Peak production occurs in the evening around 6:00 PM. In pregnant women, progesterone also exhibits a similar rhythm during the second and third trimesters, with a nadir in the morning and a peak in the late evening. Salivary progesterone does not differentiate between participants in different cycle phases. Therefore, salivary progesterone is best used to track intra-individual changes across the cycle and repeated measures from the same individual across their cycle. For males, it is not recommended to measure salivary progesterone due to the existence of low levels of progesterone.

FREQUENTLY STUDIED WITH

Cortisol, Estradiol, Estrone, Estriol, DHEA, Androstenedione

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

Klump et al. (2008) calculated the Z score by measuring salivary progesterone throughout the menstrual cycle, using a 5 day rolling averages within subjects
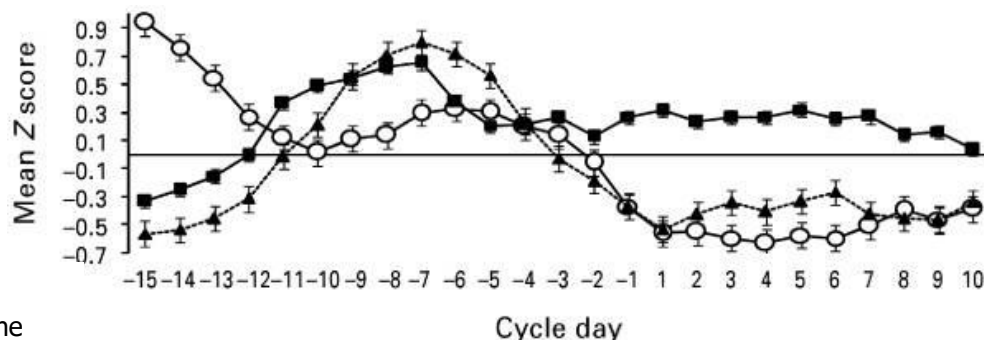
Levels of binge eating (−■−), estradiol (−○−) and progesterone (− −▲− −)

Klump, K. L. et al. (2008).

KEY RESOURCES

1. Gavrilova, N, et al. (2009). Salivary Sex Hormone Measurement in a National, Population-Based Study of Older Adults. J Gerontol B Psychol Sci Soc Sci. 64 Suppl1(Suppl1):i94-105.
2. Gloe, LM, et al. (2021). Examining the role of ovarian hormones in the association between worry and working memory across the menstrual cycle.Psychoneuroendocrinology, 131, 105285.
3. Mikhail, ME, et al. (2021). Trait negative affect interacts with ovarian hormones to predict risk for emotional eating. Clin Psychol Sci., 9(1), 114–128.
4. Klump, K. L., Keel, P. K., Culbert, K. M., & Edler, C. (2008). Ovarian hormones and binge eating: exploring associations in community samples. Psychological medicine, 38(12), 1749–1757.
5. 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
6. Ellison, P.T. (1993). Measurements of salivary progesterone. In: Saliva as a diagnostic fluid, Malamud, D., Tabak, L., eds. Ann N Y Acad Sci, 694, 161-176

Salimetrics