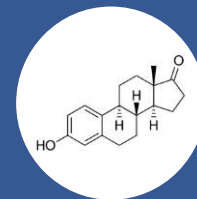


# SALIVARY ESTRONE QUICK START GUIDE



## BIOLOGICAL CONSIDERATIONS

Estrone is one of the three main estrogenic steroid hormones produced in humans. Circulating estrone levels are relatively high at birth in both males and females, decrease postnatally, and increase during puberty. Of the three major estrogens, estrone is predominant after menopause in women. In premenopausal women, estrone is primarily produced by the conversion of androstenedione in the ovaries, with concentrations peaking in the preovulatory phase and a smaller secondary increase during the luteal phase. In post-menopausal women, children, and men, estrone is largely produced by the conversion of androstenedione in peripheral tissues. Estrone is subsequently reduced to estradiol in various peripheral tissues. In non-pregnant women, only about 3% of estrone in the bloodstream is not bound to proteins. Unbound estrone enters saliva from the blood via intracellular mechanisms, and in saliva the majority of the estrone remains unbound to protein.

<b>Biological Representation</b>	Systemic
<b>Family:</b>	Estrogenic steroid hormones

## SAMPLE TIMING AND DESIGN

Estrogens are components of various medications and the use of these substances can influence the levels measured in saliva. The medications may be delivered via gels, oral tablets, and inhalers. It is recommended to document the use of estrogen containing contraceptives and consider estimating saliva flow rate.

## FREQUENTLY STUDIED WITH

Cortisol, Estradiol, Estriol, Progesterone

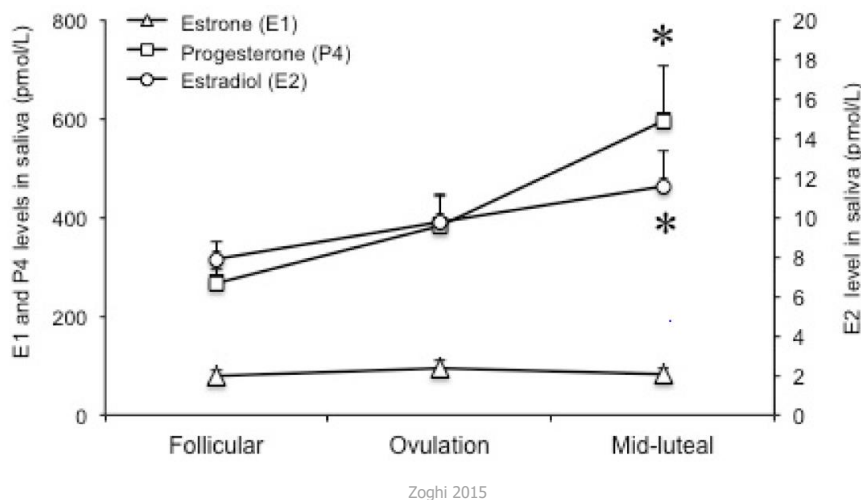
## TECHNICAL SUMMARY

Sample Collection Methods & Volumes	
Passive Drool	✓
SalivaBio Swabs	-
Optimum Collection Volume	225 $\mu$ L*

\*Add 300  $\mu$ L to the total collection volume for all analytes of interest.

## EXAMPLE DATA

Zoghi 2015, measured salivary estrone throughout a women's normal menstruation cycle. Estrone is shown to have the lowest changing hormone levels compared to progesterone and estradiol.



## KEY RESOURCES

- 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>
- Zoghi, M., et al., (2015). The Effects of Sex Hormonal Fluctuations during Menstrual Cycle on Cortical Excitability and Manual Dexterity (a Pilot Study). *PLoS one*, 10(8), e0136081.
- Faiman, C., Winter, J.S., Reyes, F.I. (1976). Patterns of gonadotrophins and gonadal steroids throughout life. *Clin Obstet Gynecol*, 3(3), 467-83.

