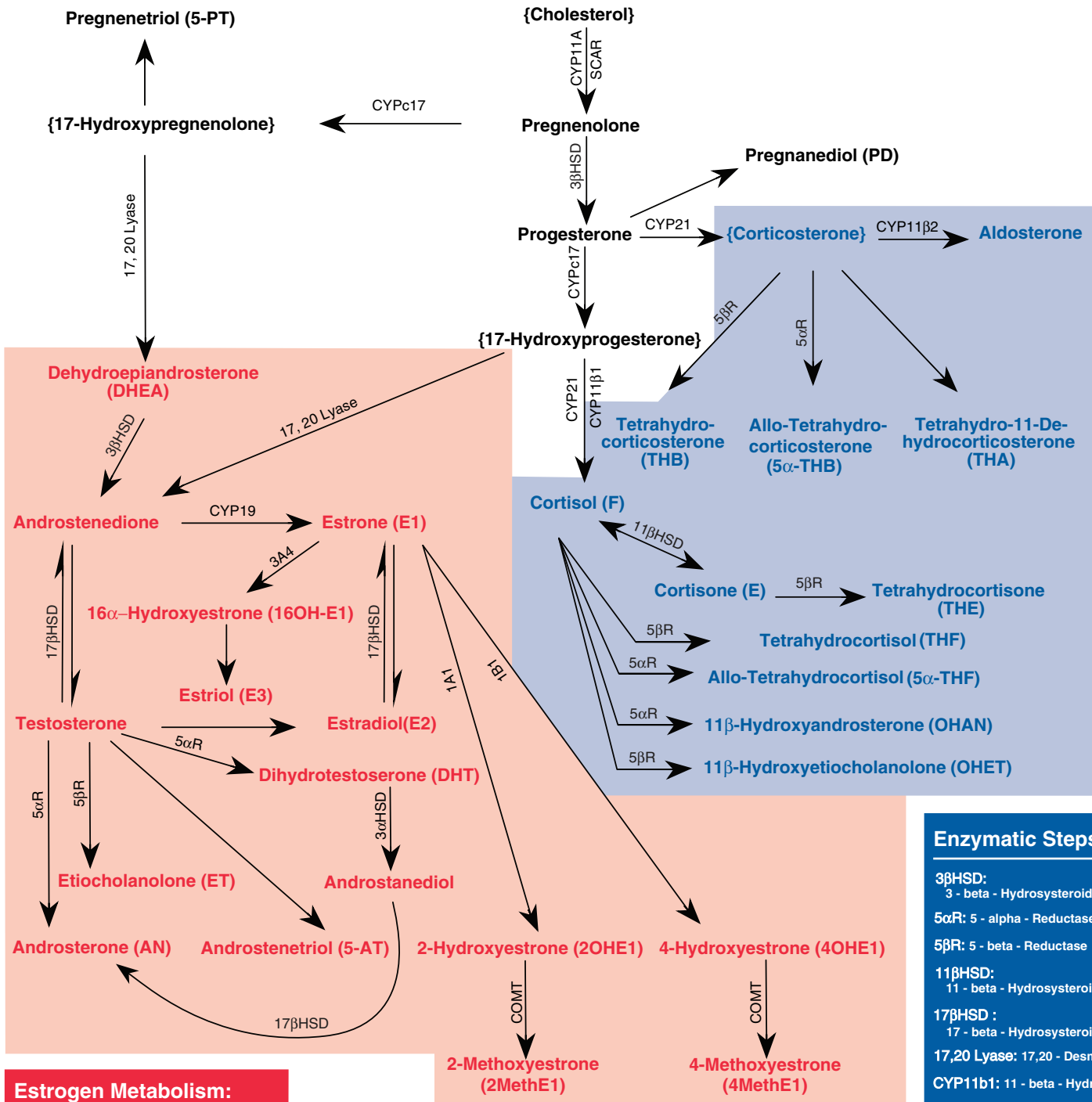


Biosynthesis and Metabolism of Steroid Hormones as Produced in the Ovaries, Testes and Adrenals

In the female, Estradiol (E2) is the major biologically active hormone, whereas it is Testosterone (T) in the male. Compounds in brackets {} are intermediates not assayed in urine. Progesterone (P) is metabolized to Pregnenediol (PD) in the liver. P is not normally excreted in urine in measurable quantities and Pregnenediol (PD) as measured in urine reflects Progesterone levels both sensitively and accurately.

Sex Hormones: Red

Adrenal (Corticosteroids) Hormones: Blue



Estrogen Metabolism:

- 1A1: Cytochrome p450 1A1 (CYP1A1)
- 1B1: Cytochrome p450 1B1 (CYP1B1)
- 3A4: Cytochrome p450 3A4 (CYP3A4)
- COMT: Catechol-O-Methyl-transferase

Enzymatic Steps:

- 3βHSD: 3 - beta - Hydroysteroid dehydrogenase
- 5αR: 5 - alpha - Reductase
- 5βR: 5 - beta - Reductase
- 11βHSD: 11 - beta - Hydroysteroid dehydrogenase
- 17βHSD: 17 - beta - Hydroysteroid dehydrogenase
- 17,20 Lyase: 17,20 - Desmolase
- CYP11b1: 11 - beta - Hydroxylase
- CYPc17: 17 - alpha - Hydroxylase
- CYP19: Aromatase
- CYP21: 21 - Hydroxylase