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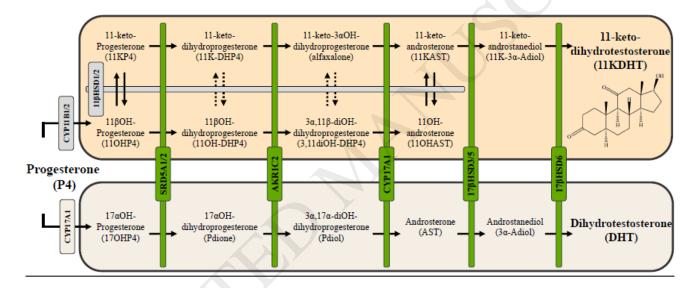


# ACCEPTED MANUSCRIPT

The *in vitro* metabolism of 11β-hydroxyprogesterone and 11-ketoprogesterone to 11-ketodihydrotestosterone in the backdoor pathway

### Desmaré van Rooyen<sup>1</sup>, Rachelle Gent<sup>1</sup>, Lise Barnard<sup>1</sup>, Amanda C. Swart<sup>1\*</sup>

#### **Graphical abstract**



## **Highlights**

- Adrenal CYP11B1 & B2 catalyse the production of 11β-hydroxyprogesterone (110HP4).
- 11βHSD2 catalyses the conversion of 11OHP4 to 11-ketoprogesterone (11KP4).
- 11OHP4 & 11KP4 are metabolised to 11-ketodihydrotestosterone in the backdoor pathway.
- SRD5A & AKR1C2 reduce 11OHP4 & 11KP4 to their 3α,5α-reduced C<sub>21</sub> steroids.
- CYP17A1 catalyses the  $17\alpha$ -hydroxylase and the 17,20-lyase reaction of alfaxalone.

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