

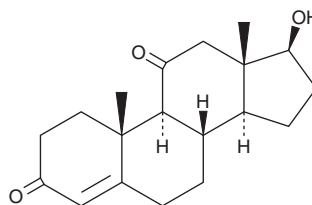
PRODUCT INFORMATION



11-keto Testosterone

Item No. 45977

CAS Registry No.: 564-35-2
Formal Name: 17 β -hydroxy-androst-4-ene-3,11-dione
Synonym: 11-KT
MF: C₁₉H₂₆O₃
FW: 302.4
Purity: $\geq$ 98%
Supplied as: A solid
Storage: -20°C
Stability: $\geq$ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

11-keto Testosterone is supplied as a solid. A stock solution may be made by dissolving the 11-keto testosterone in the solvent of choice, which should be purged with an inert gas. 11-keto Testosterone is soluble ($\geq$ 10 mg/ml) in DMSO and sparingly soluble (1-10 mg/ml) in ethanol.

Description

11-keto Testosterone is an androgenic steroid and a metabolite of testosterone that is produced in the adrenal glands of mammals and teleost fish.^{1,2} It is formed from testosterone by the cytochrome P450 (CYP) isoform CYP11B1, also known as 11 β -hydroxylase, and 11 β -hydroxysteroid dehydrogenase type 2 (11 β HSD2), via an 11 β -hydroxy testosterone (11OHT) intermediate.¹ 11-keto Testosterone induces androgen receptor transactivation in HEK293 cells expressing the human receptor (EC₅₀ = 9.9 nM).² Serum levels of 11-keto testosterone are elevated in patients with polycystic ovary syndrome (PCOS), a hormonal and metabolic disorder in women, or classic 21-hydroxylase deficiency (21OHD), a type of congenital adrenal hyperplasia (CAH) characterized by cortisol deficiency and hypotension.^{3,4} In some teleost fish species, 11-keto testosterone regulates the sexual development and behavior of male fish.⁵

References

1. Pretorius, E., Arlt, W., and Storbeck, K.-H. A new dawn for androgens: Novel lessons from 11-oxygenated C19 steroids. *Mol. Cell. Endocrinol.* **441**, 76-85 (2017).
2. Handelsman, D.J., Cooper, E.R., and Heather, A.K. Bioactivity of 11 keto and hydroxy androgens in yeast and mammalian host cells. *J. Steroid Biochem. Mol. Biol.* **218**, 106049 (2022).
3. O'Reilly, M.W., Kempegowda, P., Jenkinson, C., et al. 11-oxygenated C19 steroids are the predominant androgens in polycystic ovary syndrome. *J. Clin. Endocrinol. Metab.* **102**(3), 840-848 (2017).
4. Turcu, A.F., Nanba, A.T., Chomic, R., et al. Adrenal-derived 11-oxygenated 19-carbon steroids are the dominant androgens in classic 21-hydroxylase deficiency. *Eur. J. Endocrinol.* **174**(5), 601-609 (2016).
5. Godwin, J. Neuroendocrinology of sexual plasticity in teleost fishes. *Front. Neuroendocrinol.* **31**(2), 203-216 (2010).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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