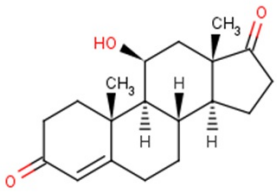
Data Sheet (Cat.No.T14001)

TargetMol
A DRUG SCREENING EXPERT

11-Beta-hydroxyandrostenedione

Chemical Properties



CAS No.:	382-44-5
Formula:	C19H26O3
Molecular Weight:	302.41
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	11-Beta-hydroxyandrostenedione (4-Androsten-11β-ol-3,17-dione) is a steroid mainly found in the adrenal origin (11β-hydroxylase is present in adrenal tissue, but absent in ovarian tissue), which is a 11β-hydroxysteroid dehydrogenase (11βHSD) isozymes inhibitor. Measuring plasma 11-Beta-hydroxyandrostenedione can distinguish the adrenal or ovarian origin of hyperandrogenism, with 4-androstenedione increases,[1][2].
Targets(IC_{50})	Human Endogenous Metabolite: None
In vitro	21-deoxycortisol (21dF) and 21-deoxycortisone (21dE) is assayed within the LNCaP cell line to establish that this conversion is catalysed by the lyase activity of CYP17A1. After the transfection of CYP17A1, 11-Beta-hydroxyandrostenedione (11OHA4)-pathway metabolites increase, 21dF and 21dE are in fact metabolised to 11-Beta-hydroxyandrostenedione and 11-ketoprogesterone (11KP4) by CYP17A1, respectively[2].
In vivo	In 21-hydroxylase deficiency, Cushing's syndrome, and hyperandrogenism of adrenal origin, the plasma concentration of 11-Beta-hydroxyandrostenedione (11beta-hydroxy-4-androstene-3,17-dione) is very high. In congenital 11-hydroxylase deficiency and adrenal insufficiency, the plasma concentration of 11-Beta-hydroxyandrostenedione (11beta-hydroxy-4-androstene-3,17-dione) is very low. Thus, when plasma 4-androstenedione is elevated, it is useful to measure the plasma 11-Beta-hydroxyandrostenedione level in order to determine the adrenal or ovarian origin of the hyperandrogenism[1]

Solubility Information

Solubility	DMSO: 250 mg/mL (826.69 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.307 mL	16.534 mL	33.068 mL
5 mM	0.661 mL	3.307 mL	6.614 mL
10 mM	0.331 mL	1.653 mL	3.307 mL
50 mM	0.066 mL	0.331 mL	0.661 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. Ibrahim F, et al. Plasma 11beta-hydroxy-4-androstene-3,17-dione: comparison of a time-resolved fluoroimmunoassay using a biotinylated tracer with a radioimmunoassay using a tritiated tracer. J Steroid Biochem Mol Biol. 2003 Apr;84(5):563-8.
2. Rachelle Gent, et al. 11α-Hydroxyprogesterone, a potent 11β-hydroxysteroid dehydrogenase inhibitor, is metabolised by steroid-5α-reductase and cytochrome P450 17αhydroxylase/17,20-lyase to produce C11α-derivatives of 21-deoxycortisol

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