11-Beta-hydroxyandrostenedione

Cat. No.: HY-114464

CAS No.: 382-44-5

Molecular Formula: $C_{19}H_{26}O_3$

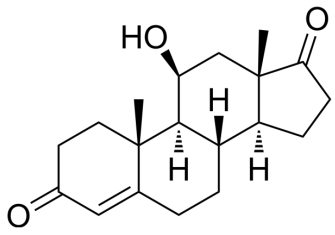
Molecular Weight: 302.41

Target: Endogenous Metabolite; 11β-HSD

Pathway: Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (330.68 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.3068 mL	16.5338 mL	33.0677 mL
	5 mM	0.6614 mL	3.3068 mL	6.6135 mL
	10 mM	0.3307 mL	1.6534 mL	3.3068 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

11-Beta-hydroxyandrostenedione (4-Androsten-11β-ol-3,17-dione) is a steroid mainly found in the the adrenal origin (11β-hydroxylase is present in adrenal tissue, but absent in ovarian tissue). 11-Beta-hydroxyandrostenedione is a 11β-hydroxysteroid dehydrogenase (11βHSD) isozymes inhibitor. As 4-androstenedione increases, measuring plasma 11-Beta-hydroxyandrostenedione can distinguish the adrenal or ovarian origin of hyperandrogenism[1][2].

IC_{50} & Target		
	Human Endogenous Metabolite	Human Endogenous Metabolite

In Vitro

In order to establish that this conversion is catalysed by the lyase activity of CYP17A1, 21-deoxycortisol (21dF) and 21-deoxycortisone (21dE) is assayed within the LNCaP cell line. Upon 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].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

The plasma concentration of 11-Beta-hydroxyandrostenedione (11beta-hydroxy-4-androstene-3,17-dione) is very high in 21-

	hydroxylase deficiency, Cushing's syndrome, and hyperandrogenism of adrenal origin, and very low in congenital 11-hydroxylase deficiency and adrenal insufficiency. 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]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[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 17 αhydroxylase/17,20-lyase to produce C11α-derivatives of 21-deoxycortisol

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