Alpha-Estradiol-d_2

Cat. No.: HY-B0141AS1

CAS No.: 81586-94-9

Molecular Formula: $C_{18}H_{22}D_2O_2$

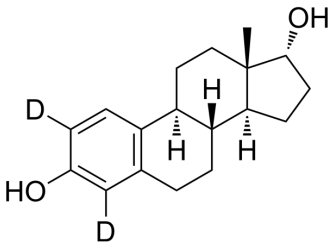
Molecular Weight: 274.39

Target: 5 alpha Reductase; Endogenous Metabolite

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 : 62.5 mg/mL (227.78 mM; ultrasonic and warming and heat to 60°C)

Ethanol : 11.11 mg/mL (40.49 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.6444 mL	18.2222 mL	36.4445 mL
5 mM	0.7289 mL	3.6444 mL	7.2889 mL
10 mM	0.3644 mL	1.8222 mL	3.6444 mL

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

BIOLOGICAL ACTIVITY

Description

Alpha-Estradiol-d_2 is the deuterium labeled Alpha-Estradiol. Alpha-Estradiol is a weak estrogen and a 5α-reductase inhibitor which is used as a topical medication in the treatment of androgenic alopecia[1].

In Vitro

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1].

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

REFERENCES

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.

[2]. Santos RS, et al. The effects of 17 alpha-estradiol to inhibit inflammation in vitro. Biol Sex Differ. 2017 Sep 6;8:30.

[3]. Schriefers H, et al. Inhibition of testosterone metabolism by 17-alpha-estradiol in rat liver slices. Arzneimittelforschung. 1991 Nov;41(11):1186-9.

[4]. Zhang HB, et al. 17-Alpha-estradiol ameliorating oxygen-induced retinopathy in a murine model. Jpn J Ophthalmol. 2012 Jul;56(4):407-15.

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