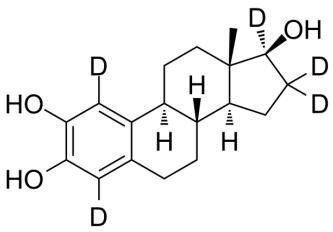
2-Hydroxyestradiol-d5

Cat. No.:	HY-124489S1
CAS No.:	221093-33-0
Molecular Formula:	$C_{18}H_{19}D_5O_3$
Molecular Weight:	293.41
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	2-Hydroxyestradiol-d5 is the deuterium labeled 2-Hydroxyestradiol. 2-Hydroxyestradiol, a metabolite of 17β-estradiol with minimal estrogenic activity, possesses antioxidant effects and reacts with DNA to form stable adducts and exerts genotoxicity[1][3][4].
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]. C H Van Aswegen, et al. Binding of 2-hydroxyestradiol and 4-hydroxyestradiol to estrogen receptors from human breast cancers. J Steroid Biochem. 1989 Apr;32(4):485-92.

[3]. S P Tofovic, et al. 2-Hydroxyestradiol attenuates the development of obesity, the metabolic syndrome, and vascular and renal dysfunction in obese ZSF1 rats. J Pharmacol Exp Ther. 2001 Dec;299(3):973-7.

[4]. Yeon-Jin Hurh, et al. 2-Hydroxyestradiol induces oxidative DNA damage and apoptosis in human mammary epithelial cells. J Toxicol Environ Health A. 2004 Dec;67(23-24):1939-53.

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