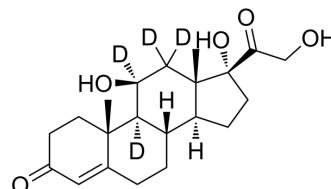


Hydrocortisone-d₄

Cat. No.:	HY-N0583S2
CAS No.:	73565-87-4
Molecular Formula:	C ₂₁ H ₂₆ D ₄ O ₅
Molecular Weight:	366.48
Target:	Glucocorticoid Receptor; Endogenous Metabolite
Pathway:	Immunology/Inflammation; Vitamin D Related/Nuclear Receptor; Metabolic Enzyme/Protease
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMF : ≥ 30 mg/mL (81.86 mM)
 DMF : ≥ 30 mg/mL (81.86 mM)
 DMSO : ≥ 20 mg/mL (54.57 mM)
 DMSO : ≥ 20 mg/mL (54.57 mM)
 Ethanol : ≥ 2 mg/mL (5.46 mM)
 Ethanol : ≥ 2 mg/mL (5.46 mM)
 DMF:PBS (pH 7.2) (1:4) : ≥ 0.2 mg/mL (0.55 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
	1 mM		2.7287 mL	13.6433 mL	27.2866 mL
	5 mM		0.5457 mL	2.7287 mL	5.4573 mL
	10 mM		0.2729 mL	1.3643 mL	2.7287 mL

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

BIOLOGICAL ACTIVITY

Description

Hydrocortisone-d₄ is the deuterium labeled Hydrocortisone. Hydrocortisone (Cortisol) is a steroid hormone or glucocorticoid secreted by the adrenal cortex^[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]. Bellinghausen I, et al. Inhibition of human allergic T-cell responses by IL-10-treated dendritic cells: differences from hydrocortisone-treated dendritic cells. *J Allergy Clin Immunol*. 2001 Aug;108(2):242-9.
- [3]. Chappell D, et al. Hydrocortisone preserves the vascular barrier by protecting the endothelial glycocalyx. *Anesthesiology*. 2007 Nov;107(5):776-84.
- [4]. Förster C, et al. Differential effects of hydrocortisone and TNFalpha on tight junction proteins in an in vitro model of the human blood-brain barrier. *J Physiol*. 2008 Apr 1;586(7):1937-49.
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Caution: Product has not been fully validated for medical applications. For research use only.

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