Data Sheet (Cat.No.T9515)

TargetMol

Dihydrocortisol

Chemical Properties

CAS No. :	1482-50-4
Formula:	C21H32O5
Molecular Weight:	364.48
Storage:	Keep away from moisture Powder: -20°C for 3 years | In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.

Biological Description

Description	Dihydrocortisol is a metabolite of hydrocortisone (cortisol) and a potential mineralocorticoid with inhibitory effects on Human cell line HEK293. It can elevate intraocular pressure by enhancing glucocorticoid activity and induce apoptosis in breast cancer cells.
In vitro	Methods: MCF-7 cells were treated with different concentrations of 5β-Dihydrocortisol to detect cell viability and apoptosis level. The interaction between 5β-Dihydrocortisol and human serum albumin (HSA) was analyzed by fluorescence spectroscopy. Results: : 1.5β-Dihydrocortisol (10-100 μM, 48 h) could inhibit the viability of MCF-7 cells with an IC_{50} of 27.59 μM. 2.5β-Dihydrocortisol (14 μM, 24 h) could induce early apoptosis (35.6%) and late apoptosis (2.5%) in MCF-7 cells. 3.5β-Dihydrocortisol (1-10 μM, 48 h) could quench the intrinsic fluorescence of human serum albumin (HSA), with the maximum emission peak at 360 nm and no obvious shift of the fluorescence peak position [2].
In vivo	Methods: The combined topical application of 5β-Dihydrocortisol and dexamethasone was performed on the eyes of young rabbits for 18 consecutive days, and changes in intraocular pressure (IOP) were detected. Results: 5β-Dihydrocortisol (0.1%-1.0%, administration for 18 days) could enhance the intraocular pressure-elevating effect of topical 0.06% dexamethasone in young rabbits [3].

Solubility Information

Solubility	DMSO: 100.00 mg/mL (274.36 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.7436 mL	13.7182 mL	27.4363 mL
5 mM	0.5487 mL	2.7436 mL	5.4873 mL
10 mM	0.2744 mL	1.3718 mL	2.7436 mL
50 mM	0.0549 mL	0.2744 mL	0.5487 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Marver D, et, al. Dihydrocortisol: a potential mineralocorticoid. J Steroid Biochem. 1978 Jan;9(1):1-7.
Kallubai M, et, al. Spectroscopic evaluation of synthesized 5β-dihydrocortisol and 5β-dihydrocortisol acetate binding mechanism with human serum albumin and their role in anticancer activity. J Biomol Struct Dyn. 2019 Feb; 37(3):623-640.
Southren AL, et, al. 5 beta-Dihydrocortisol: possible mediator of the ocular hypertension in glaucoma. Invest Ophthalmol Vis Sci. 1985 Mar;26(3):393-5.
Appanna N, et, al. Differential activity and expression of human 5β-reductase (AKR1D1) splice variants. J Mol Endocrinol. 2021 Mar;66(3):181-194.
Weinstein BI, et, al. Potentiation of glucocorticoid activity by 5 beta-dihydrocortisol: its role in glaucoma. Science. 1983 Oct 14;222(4620):172-3.