Hydrocortisone cypionate

Cat. No.: HY-U00089

CAS No.: 508-99-6

Molecular Formula: $C_{29}H_{42}O_6$

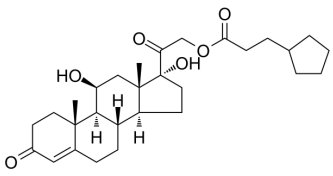
Molecular Weight: 486.64

Target: Glucocorticoid Receptor

Pathway: Immunology/Inflammation; Vitamin D Related/Nuclear Receptor

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (256.86 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.0549 mL	10.2745 mL	20.5491 mL
	5 mM	0.4110 mL	2.0549 mL	4.1098 mL
	10 mM	0.2055 mL	1.0275 mL	2.0549 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.27 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (4.27 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.27 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Hydrocortisone cypionate is a synthetic glucocorticoid corticosteroid and a corticosteroid ester.

In Vitro

Hydrocortisone (50 nM) shows a dose-dependent down-regulation of GR transcript in hCMEC/D3 cells. Hydrocortisone supplementation of the serum-reduced cell differentiation medium leads to a significant increase in TER across the hCMEC/D3 monolayer[1]. Hydrocortisone-treated Dendritic cells (DCs) show a decreased expression of MHC II molecules, the costimulatory molecule CD86, and the DC-specific marker CD83, as well as a strongly reduced IL-12 secretion. Hydrocortisone-treated DCs inhibit production of IFN-γ but induce an increased release of IL-4 and no change in IL-5[2]. Hydrocortisone reduces postischemic oxidative stress, perfusion pressure, and transudate formation. Hydrocortisone

	inhibits postischemic shedding of syndecan-1, heparan sulfate, and hyaluronan as is release of histamine from resident mast cells[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. F?rster 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.

[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.

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