Cortisone

Cat. No.: HY-17461

CAS No.: 53-06-5

Molecular Formula: $C_{21}H_{28}O_5$

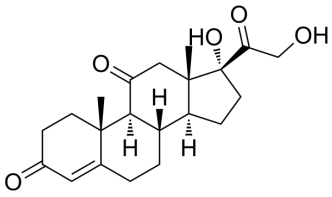
Molecular Weight: 360.44

Target: Glucocorticoid Receptor; Endogenous Metabolite

Pathway: Immunology/Inflammation; Vitamin D Related/Nuclear Receptor; Metabolic Enzyme/Protease

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 : 100 mg/mL (277.44 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.7744 mL	13.8719 mL	27.7439 mL
	5 mM	0.5549 mL	2.7744 mL	5.5488 mL
	10 mM	0.2774 mL	1.3872 mL	2.7744 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: ≥ 2.5 mg/mL (6.94 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.94 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.94 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Cortisone (17-Hydroxy-11-dehydrocorticosterone), an oxidized metabolite of Cortisol (a Glucocorticoid). Cortisone acts as an immunosuppressant and anti-inflammatory agent. Cortisone can partially intervene in binding of Glucocorticoid to Glucocorticoid-receptor at high concentrations[1][3][4].

IC_{50} & Target		
	Human Endogenous Metabolite	Human Endogenous Metabolite

In Vitro	Cortisone (2.8-28,000 nM) dose-dependently attenuates the apoptosis induced by Cortisol in peripheral-blood mononuclear cells (PBMCs)[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Cortisone (2 mg/kg; i.m. on alternate days for 2 months) decreases the BCG (the vaccine strain of tubercle bacillus) lesions and tuberculin reactions in rabbits[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male New Zealand white rabbits (2.1-2.4 kg) were injected with BCG at six days after the first administrtion[2]
Dosage:	2 mg/kg
Administration:	Intramuscular injection on alternate days for 2 months
Result:	Reduced the BCG lesions and tuberculin reactions. Reduced the number of infiltrating mononuclear cells (MN), the amount of caseous necrosis and ulceration, and the percent of NM that were beta-galactosidase-positive.

CUSTOMER VALIDATION

- Drug Test Anal. 2020 Aug 27.

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REFERENCES

[1]. Hirano T, et, al. Cortisone counteracts apoptosis-inducing effect of cortisol in human peripheral-blood mononuclear cells. Int Immunopharmacol. 2001 Nov;1(12):2109-15.

[2]. McCue RE, et, al. The effect of cortisone on the accumulation, activation, and necrosis of macrophages in tuberculous lesions. Inflammation. 1978 Jun;3(2):159-76.

[3]. Seleem D, et, al. In Vivo Antifungal Activity of Monolaurin against Candida albicans Biofilms. Biol Pharm Bull. 2018;41(8):1299-1302.

[4]. Rusu VM, et, al. In vivo effects of cortisone on the B cell line in chickens. J Immunol. 1975 Nov;115(5):1370-4.

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