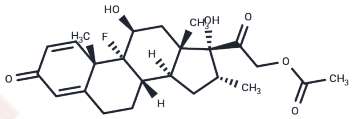
Data Sheet (Cat.No.T0947)

TargetMol

Dexamethasone acetate

Chemical Properties



CAS No. : 1177-87-3

Formula: C24H31FO6

Molecular Weight: 434.50

Storage: 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	Dexamethasone acetate (NSC 39471) is the acetate salt form of Dexamethasone, a synthetic adrenal corticosteroid with potent anti-inflammatory properties. In addition to binding to specific nuclear steroid receptors, dexamethasone also interferes with NF-kB activation and apoptotic pathways. This agent lacks the salt-retaining properties of other related adrenal hormones.
Targets(IC50)	Glucocorticoid Receptor,Mitophagy,Annexin A,NOS,Antibacterial,Antibiotic,Autophagy, ADC Cytotoxin,Complement System,IL Receptor,SARS-CoV
In vitro	Dexamethasone inhibits COX-2 mRNA expression induced by IL-1 in human articular chondrocytes. [1] Dexamethasone suppresses the cyclooxygenase-2 induction by tumor necrosis factor α (TNFα) with an IC50 of 1 nM in MC3T3-E1 cells. Dexamethasone binds to the glucocorticoid receptor and then to the glucocorticoid response element. [2] Dexamethasone (10 μM) induces osteoblastic differentiation of rat bone marrow stromal cell cultures with elevated mRNA expression of alkaline phosphatase osteopontin, bone sialoprotein, and osteocalcin. [3] Dexamethasone (5 μM) treatment decreases proliferation of adult hippocampal neural progenitor cells and SRE-driven gene expression. [5]
In vivo	Dexamethasone (2 mg/kg) reduces the number of the BrdU-labeled hepatocytes by 80% in male Fischer F344 rats. Dexamethasone (2 mg/kg) pretreatment suppresses the expression of both TNF and IL-6 after partial hepatectomy and significantly reduces the proliferative response of the hepatocytes in male Fischer F344 rats. Dexamethasone also severely diminishes the induction and expansion of oval cells induced by the 2-acetylaminofluorene/partial hepatectomy (AAF/PH) protocol but does not have any effect on the proliferation of the bile duct cells stimulated by bile duct ligation. [4] Dexamethasone (100 μg/kg) produces a significant decrease 59.2% of BrdU(+) hippocampal progenitor cells in Sprague-Dawley rats. Dexamethasone (100 μg/kg) decreases ERK activation in granule cell layer in Sprague-Dawley rats. [5]

Solubility Information

Solubility	Ethanol: 16 mg/mL (36.82 mM),Sonication is recommended. DMSO: 250 mg/mL (575.37 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 10 mg/mL (23.01 mM),Solution. 10% DMSO+90% Saline: < 10 mg/mL (23.01 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3015 mL	11.5075 mL	23.015 mL
5 mM	0.4603 mL	2.3015 mL	4.603 mL
10 mM	0.2301 mL	1.1507 mL	2.3015 mL
50 mM	0.046 mL	0.2301 mL	0.4603 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

Rickard DJ, et al. Dev Biol, 1994, 161(1), 218-228.
Nagy P, et al. Hepatology, 1998, 28(2), 423-429.
Kim JB, et al. Brain Res, 2004, 1027(1-2), 1-10.
Wu CY, et al. J Immunol. 1998, 161(6), 2723-2730.
Blanco FJ, et al. J Rheumatol, 1999, 26(6), 1366-1373.