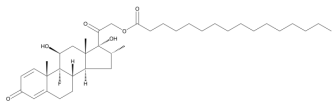
Dexamethasone palmitate

Cat. No.:	HY-128922
CAS No.:	14899-36-6
Molecular Formula:	$C_{38}H_{59}FO_6$
Molecular Weight:	630.87
Target:	Others
Pathway:	Others
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (79.26 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.5851 mL	7.9256 mL	15.8511 mL
	5 mM	0.3170 mL	1.5851 mL	3.1702 mL
	10 mM	0.1585 mL	0.7926 mL	1.5851 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 (3.30 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.08 mg/mL (3.30 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (3.30 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Dexamethasone palmitate (DXP) is a proagent of Dexamethasone (HY-14648). Dexamethasone palmitate can be used for the research of inflammation[1][2].

In Vitro

Dexamethasone palmitate (100 μg/mL; 48 h) affects cytokines concentration of RAW 264.7 cells[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	RAW 264.7 cells
Concentration:	100 μg/mL
Incubation Time:	48 hours
Result:	Showed vitro anti-inflammatory effects and decreased LPS-induced MCP-1 and TNF-α concentration in RAW 264.7 cells.

In Vivo

Dexamethasone palmitate (1280 μg; IVT injection once) shows different distribution in ocular tissue at different times[2].
Dexamethasone palmitate (280-1280 μg; IVT injection once) affects VEGF-induced vascular hyperpermeability[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	New Zealand White rabbits[2]
Dosage:	1280 μg
Administration:	IVT injection; 1280 μg once
Result:	Mostly distributed in vitreous and still existed till 9 months. The least distributed in aqueous humor and almost disappeared till 6 months.

Animal Model:	New Zealand White rabbits with VEGF injection[2]
Dosage:	280, 560 and 1280 μg
Administration:	IVT injection; 280-1280 μg once
Result:	After 9 months administration VEGF-induced vascular permeability was controlled at a concentration of 1280 μg, besides 280 and 560 μg also reduced VEGF-induced vascular hyperpermeability after administration for 4 months.

REFERENCES

[1]. Lorscheider M, et al. Dexamethasone palmitate nanoparticles: An efficient treatment for rheumatoid arthritis. J Control Release. 2019 Feb 28;296:179-189.

[2]. Daull P, et al. A preliminary evaluation of dexamethasone palmitate emulsion: a novel intravitreal sustained delivery of corticosteroid for treatment of macular edema. J Ocul Pharmacol Ther. 2013 Mar;29(2):258-69.

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