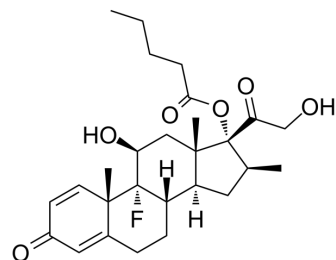


Betamethasone valerate

Cat. No.:	HY-B0727		
CAS No.:	2152-44-5		
Molecular Formula:	C ₂₇ H ₃₇ FO ₆		
Molecular Weight:	476.58		
Target:	Glucocorticoid Receptor		
Pathway:	GPCR/G Protein		
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 : 100 mg/mL (209.83 mM; Need ultrasonic)					
		Solvent Concentration	Mass	1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM		2.0983 mL	10.4914 mL	20.9828 mL
		5 mM		0.4197 mL	2.0983 mL	4.1966 mL
10 mM			0.2098 mL	1.0491 mL	2.0983 mL	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (5.25 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (5.25 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (5.25 mM); Clear solution 					

BIOLOGICAL ACTIVITY

Description	Betamethasone valerate (Betamethasone 17-valerate), the 17-valerate ester of Betamethasone, is a topical corticosteroid with anti-inflammatory activity. Betamethasone valerate is used in the treatment of recurrent aphthous stomatitis. Betamethasone valerate inhibits the binding of the radiolabeled glucocorticoid dexamethasone (³ H dexamethasone) to human epidermis and mouse skin with IC ₅₀ s of 5 and 6 nM, respectively ^{[1][2][3]} .
In Vivo	Betamethasone valerate (10 mg; 5 minutes; applied to the irritated site with a micro spatula) ointment inhibits about 50% of the ear edema without thymus atrophy ^[4] .

Betamethasone-17-valerate ointment (50 mg) inhibits homologous passive cutaneous anaphylaxis^[4].

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

Animal Model:	Female Sprague-Dawley rats weighing 60-70 g (croton oil edema experiment) ^[4]
Dosage:	10 mg
Administration:	Applied to the irritated site with a micro spatula; 5 minutes
Result:	Inhibited about 50% of the ear edema without thymus atrophy.

REFERENCES

[1]. Sizílio RH, et al. Chitosan/pvp-based mucoadhesive membranes as a promising delivery system of betamethasone-17-valerate for aphthous stomatitis. Carbohydr Polym. 2018 Jun 15;190:339-345.

[2]. Epstein EH Jr, et al. Glucocorticoid receptors of normal human epidermis. J Invest Dermatol. 1982 Feb;78(2):144-6.

[3]. WILLIAMS DI, et al. BETAMETHASONE 17-VALERATE: A NEW TOPICAL CORTICOSTEROID. Lancet. 1964 May 30;1(7344):1177-9.

[4]. Iizuka Y, et al. Two simple methods for the evaluation of topically active anti-inflammatory steroidal ointments. Agents Actions. 1981 May;11(3):254-9.

Caution: Product has not been fully validated for medical applications. For research use only.

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