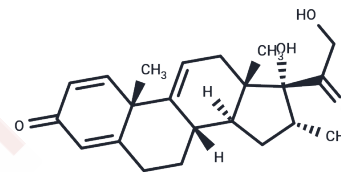


Vamorolone

Chemical Properties

CAS No. :	13209-41-1
Formula:	C ₂₂ H ₂₈ O ₄
Molecular Weight:	356.46
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	Vamorolone (VBP15) is an orally active dissociative steroidal anti-inflammatory drug and membrane-stabilizer. Vamorolone improves muscular dystrophy without side effects. Vamorolone displays effective NF-κB inhibition and substantially decreases hormonal effects.
Targets(IC50)	Glucocorticoid Receptor, NF-κB
In vitro	Vamorolone is a first-in-class mineralocorticoid receptor antagonist/dissociative glucocorticoid receptor ligand. Vamorolone inhibits TNFα-induced pro-inflammatory NF-κB signaling in C2C12 muscle cells at 1 nM or more. Vamorolone binds the glucocorticoid receptor and mineralocorticoid receptor. Vamorolone (0.1, 1 μM; 30 minutes) decreases the production of IL1β and CCL5 inflammatory mediators in primary human macrophages [1][2][3].
In vivo	Vamorolone (30 mg/kg; p.o.; daily for 20 days) decreases CNS Inflammation in murine experimental autoimmune encephalomyelitis. Vamorolone (5-30 mg/kg; cherry syrup) displays a superior side effect profile compared to pharmacological glucocorticoids in mdx mice [1][2].

Solubility Information

Solubility	DMSO: 62.5 mg/mL (175.34 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: 2 mg/mL (5.61 mM), Sonication is recommended. <i>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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.8054 mL	14.0268 mL	28.0536 mL
5 mM	0.5611 mL	2.8054 mL	5.6107 mL
10 mM	0.2805 mL	1.4027 mL	2.8054 mL
50 mM	0.0561 mL	0.2805 mL	0.5611 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

Heier CR, et al. VBP15, a novel anti-inflammatory and membrane-stabilizer, improves muscular dystrophy without side effects. *EMBO Mol Med.* 2013 Oct;5(10):1569-85.

Dillingham BC, et al. VBP15, a novel anti-inflammatory, is effective at reducing the severity of murine experimental autoimmune encephalomyelitis. *Cell Mol Neurobiol.* 2015 Apr;35(3):377-387.

Heier CR, et al. Vamorolone targets dual nuclear receptors to treat inflammation and dystrophic cardiomyopathy. *Life Sci Alliance.* 2019 Feb 11;2(1). pii: e201800186.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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