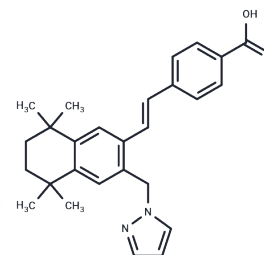


palovarotene

Chemical Properties

CAS No. :	410528-02-8
Formula:	C ₂₇ H ₃₀ N ₂ O ₂
Molecular Weight:	414.54
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	Palovarotene (Ro 3300074) is an agonist of nuclear retinoic acid receptor γ (RAR- γ).
Targets(IC50)	Retinoid Receptor, Autophagy
In vivo	Palovarotene effectively hinders post-traumatic chondrogenesis, osteogenesis, and significantly reduces trauma-induced ectopic bone formation. Through oral administration (1 mg/kg/day for 14 days, starting from either the first or fifth day post-operation), this compound markedly decreases subcutaneous and intramuscular heterotopic ossification (HO) in mice, achieving a reduction of 50 to 60% in HO, irrespective of treatment initiation timing or infection presence. In a specific study, Acvr1cR206H/+ mice were divided into two groups: one treated with Palovarotene and the other with a vehicle control for 14 days beginning on the injury's first day. Comparative analysis using micro-CT and 3D imaging on the 14th day revealed that while significant HO tissue masses developed in the vehicle-treated group, Palovarotene-treated mice showed over an 80% reduction in HO formation, based on bone volume/total volume metrics.

Solubility Information

Solubility	DMSO: 5.5 mg/mL (13.27 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: 1 mg/mL (2.41 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	2.4123 mL	12.0616 mL	24.1231 mL
5 mM	0.4825 mL	2.4123 mL	4.8246 mL
10 mM	0.2412 mL	1.2062 mL	2.4123 mL
50 mM	0.0482 mL	0.2412 mL	0.4825 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

Pavey GJ, et al. Targeted stimulation of retinoic acid receptor- γ mitigates the formation of heterotopic ossification in an established blast-related traumatic injury model. *Bone*. 2016 Sep;90:159-67.

Chakkalakal SA, et al. Palovarotene Inhibits Heterotopic Ossification and Maintains Limb Mobility and Growth in Mice With the Human ACVR1(R206H) Fibrodysplasia Ossificans Progressiva (FOP) Mutation. *J Bone Miner Res*. 2016 Sep;31(9):1666-75.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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