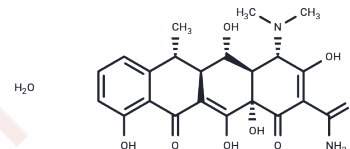


Doxycycline monohydrate

Chemical Properties

CAS No. :	17086-28-1
Formula:	C ₂₂ H ₂₆ N ₂ O ₉
Molecular Weight:	462.4
Storage:	Keep away from direct sunlight Powder: -20°C for 3 years In solvent: -80°C for 1 year <i>Actual storage temperature shall be subject to the COA.</i>



Biological Description

Description	Doxycycline monohydrate is an inhibitor of metalloproteinase (MMP)
Targets(IC50)	MMP, Antibacterial, Antibiotic, Parasite
In vivo	Doxycycline treatment inhibits the activity of tissue MMP and attenuates the decrease in the collagen content in aortas of mice haploinsufficient for collagen III, as well as prevents the development of stress-induced vessel pathology. Doxycycline merits clinical testing as a treatment for vEDS[1].

Solubility Information

Solubility	DMSO: 250 mg/mL (540.66 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: < 10 mg/mL (21.63 mM), Lower concentrations may be soluble, but exact solubility limit is unknown. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 10 mg/mL (21.63 mM), Solution. <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	2.1626 mL	10.8131 mL	21.6263 mL
5 mM	0.4325 mL	2.1626 mL	4.3253 mL
10 mM	0.2163 mL	1.0813 mL	2.1626 mL
50 mM	0.0433 mL	0.2163 mL	0.4325 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

Briest W , Cooper T K , Tae H J , et al. Doxycycline Ameliorates the Susceptibility to Aortic Lesions in a Mouse Model for the Vascular Type of Ehlers-Danlos Syndrome[J]. Journal of Pharmacology & Experimental Therapeutics, 2011, 337(3):621-627.

Trajano V C C , Costa K J R , Lanza C R M , et al. Osteogenic activity of cyclodextrin-encapsulated doxycycline in a calcium phosphate PCL and PLGA composite[J]. Materials science & engineering, 2016, 64(jul.):370-375.

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