

Doxycycline (hyclate)

Catalog No: tcsc2890



Available Sizes

Size: 10 mM * 1 mL in Water

Size: 1g

Size: 5g

Size: 10g

Size: 25g



Specifications

CAS No:

24390-14-5

Formula:

$C_{22}H_{24}N_2O_8 \cdot 1/2 C_2H_6O \cdot ClH$

Pathway:

Metabolic Enzyme/Protease

Target:

MMP

Form:

White to light yellow (Solid)

Purity / Grade:

>98%

Solubility:

H₂O : 13.89 mg/mL (27.08 mM; Need ultrasonic); DMSO : 240 mg/mL (467.89 mM; Need ultrasonic)

Storage Instruction:

2-8°C, protect from light

Alternative Names:

Doxycycline hydrochloride hemiethanolate hemihydrate; WC2031; 2-Naphthacenecarboxamide, 4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,5,10,12,12a-pentahydroxy-6-methyl-1,11-dioxo-, hydrochloride, (4S,4aR,5S,5aR,6R,12aS)-, compd. with ethanol, hydrate (2:2:1:1)

Observed Molecular Weight:

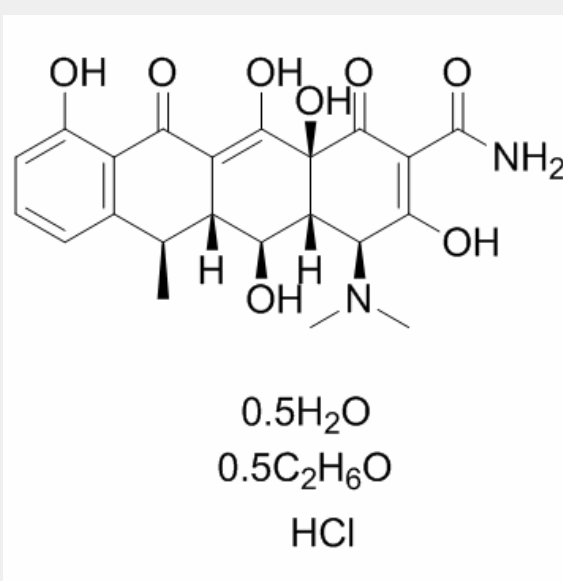
512.94

Product Description

Doxycycline (hyclate) is a tetracycline antibiotic and broad-spectrum metalloproteinase (**MMP**) inhibitor.

In Vitro: Doxycycline shows excellent effectiveness and time-dependent characteristics against *M. gallisepticum* strain S6 in vitro^[2]. Osteoblasts exposed to the composite containing 25 µg/mL doxycycline (DOX)/β-cyclodextrin (βCD) has increased cell proliferation (p [3]. Doxycycline (20 nM) inhibits ECM (extracellular matrix) production and remodeling in both SMC (smooth muscle cell) types of cultures, and synthesis of collagens and isoprenylated proteins in SMC-Ch (a cholesterol-rich diet) is a higher than in SMC-C (a standard diet)^[4].

In Vivo: In heterozygous (HT) Col3a1 knockout mice, after 3 months of treatment with doxycycline or placebo, 9-month-old HT or wild-type (WT) mice are subjected to surgical stressing of the aorta. A 3-fold increase in stress-induced aortic lesions found in untreated HT mice 1 week after intervention (cumulative score 4.5 ± 0.87 versus 1.3 ± 0.34 in WT, p[1].



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