Anhydrotetracycline hydrochloride

Cat. No.: HY-118660

CAS No.: 13803-65-1

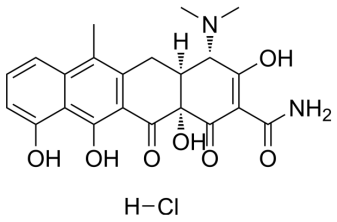
Molecular Formula: $C_{22}H_{23}ClN_2O_7$

Molecular Weight: 462.88

Target: Antibiotic; Bacterial

Pathway: Anti-infection

Storage: 4°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 170 mg/mL (367.27 mM; Need ultrasonic)
DMSO : 100 mg/mL (216.04 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.1604 mL	10.8019 mL	21.6039 mL
5 mM	0.4321 mL	2.1604 mL	4.3208 mL
10 mM	0.2160 mL	1.0802 mL	2.1604 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: 2.08 mg/mL (4.49 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (4.49 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Anhydrotetracycline hydrochloride, a tetracycline biosynthetic precursor, is a potent competitive broad-spectrum tetracycline destructase enzymes inhibitor. Anhydrotetracycline hydrochloride is an effector for tetracycline controlled gene expression systems in eukaryotic cells[1].

IC_{50} & Target

Tetracycline

In Vitro

Anhydrotetracycline hydrochloride inhibits Tet(50) (IC_{50}=210 μM),Tet(X) (IC_{50}=41 μM), Tet(X)_3 (IC_{50}=3 μM) degradations of tetracyclines. Anhydrotetracycline hydrochloride inhibits Tet(50) (IC_{50}=210 μM),Tet(X) (IC_{50}=75 μM), Tet(X)_3 (IC_{50}=26 μM) degradations of chlortetracycline. Anhydrotetracycline hydrochloride inhibits Tet(50) (IC_{50}=120 μM),Tet(X) (IC_{50}=41 μM), Tet(X)_3 (IC_{50}=7 μM) degradations of demeclocycline[1].

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

CUSTOMER VALIDATION

- Acta Pharm Sin B. 2023 Feb 4.

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REFERENCES

[1]. Jana L Markley, et al. Semisynthetic Analogues of Anhydrotetracycline as Inhibitors of Tetracycline Destructase Enzymes. ACS Infect Dis. 2019 Apr 12;5(4):618-633.

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