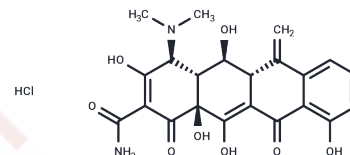


Methacycline hydrochloride

Chemical Properties

CAS No. :	3963-95-9
Formula:	C ₂₂ H ₂₃ ClN ₂ O ₈
Molecular Weight:	478.88
Appearance:	no data available
Storage:	keep away from direct sunlight,store under nitrogen Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	Methacycline hydrochloride (Rondomycin) is a broad-spectrum semisynthetic antibiotic related to TETRACYCLINE but excreted more slowly and maintaining effective blood levels for a more extended period.
Targets(IC50)	ribosome,Antibacterial,Antibiotic
In vitro	Methacycline, within pulmonary alveolar macrophages, does not alter the response gene of TGF-β1 nor attenuates the aggregation of inflammatory cells. Following tracheal aspiration of bleomycin, intraperitoneal injection of Methacycline at 100 mg/kg, starting on day 10, enhances survival rates by day 17. Methacycline mitigates bleomycin-induced classical EMT (Epithelial-Mesenchymal Transition) markers, including SNAIL1, TWIST1, type I collagen, fibronectin, and their mRNA expressions.
In vivo	Methacycline inhibits the TGF-β1-induced non-Smad signaling pathways, including the activation of c-Jun N-terminal kinase (JNK), p38, and Akt, without suppressing Smad or β-catenin transcriptional activities. It does not affect the baseline activities of JNK, p38, or Akt, nor the TGF-β1 response of lung fibroblasts. Additionally, methacycline inhibits the TGF-β1-induced expression of α-smooth muscle actin (α-SMA), SNAIL1, and type I collagen in primary alveolar epithelial cells.

Solubility Information

Solubility	DMSO: 27.5 mg/mL (57.43 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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A DRUG SCREENING EXPERT

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0882 mL	10.441 mL	20.8821 mL
5 mM	0.4176 mL	2.0882 mL	4.1764 mL
10 mM	0.2088 mL	1.0441 mL	2.0882 mL
50 mM	0.0418 mL	0.2088 mL	0.4176 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.

Reference

Xi Y, et al. Am J Respir Cell Mol Biol, 2014, 50(1), 51-60.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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