Levamisole hydrochloride

Cat. No.: HY-13666

CAS No.: 16595-80-5

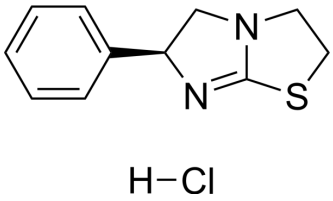
Molecular Formula: $C_{11}H_{13}ClN_2S$

Molecular Weight: 240.75

Target: Parasite; HSV

Pathway: Anti-infection

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



SOLVENT & SOLUBILITY

In Vitro

H_2O : 50 mg/mL (207.68 mM; Need ultrasonic)
DMSO : 15.5 mg/mL (64.38 mM; Need ultrasonic and warming)
Ethanol : 12.5 mg/mL (51.92 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	4.1537 mL	20.7684 mL	41.5369 mL
5 mM	0.8307 mL	4.1537 mL	8.3074 mL
10 mM	0.4154 mL	2.0768 mL	4.1537 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (415.37 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% EtOH >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 1.25 mg/mL (5.19 mM); Clear solution
3. Add each solvent one by one: 10% EtOH >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.25 mg/mL (5.19 mM); Clear solution
4. Add each solvent one by one: 10% EtOH >> 90% corn oil
   Solubility: ≥ 1.25 mg/mL (5.19 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Levamisole ((-)-Tetramisole) hydrochloride is an anthelmintic and immunomodulator belonging to a class of synthetic imidazothiazole derivatives. Levamisole hydrochloride has antiviral effects against HSV.

IC_{50} & Target	Parasite	HSV-1

In Vitro	Levamisole suppresses the production of white blood cells, resulting in neutropenia and agranulocytosis. With the increasing use of levamisole as an adulterant, a number of these complications have been reported among cocaine users [1] [2]. Levamisole reversibly and noncompetitively inhibits most isoforms of alkaline phosphatase (e.g., human liver, bone, kidney, and spleen) except the intestinal and placental isoform [3]. It is thus used as an inhibitor along with substrate to reduce background alkaline phosphatase activity in biomedical assays involving detection signal amplification by intestinal alkaline phosphatase, for example in in situ hybridization or Western blot protocols. It is used to immobilize the nematode C. elegans on glass slides for imaging. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Environ Sci Pollut Res Int. 2022 Sep 16.
- Rapid Commun Mass Spectrom. 2022 Nov 16;e9430.

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REFERENCES

[1]. Centers for Disease Control and Prevention (CDC). Agranulocytosis associated with cocaine use - four States, March 2008-November 2009.MMWR Morb Mortal Wkly Rep. 2009 Dec 18;58(49):1381-5.

[2]. Zhu NY, et al. Agranulocytosis after consumption of cocaine adulterated with levamisole. Ann Intern Med. 2009 Feb 17;150(4):287-9.

[3]. Van Belle H. Alkaline phosphatase. I. Kinetics and inhibition by levamisole of purified isoenzymes from humans. Clin Chem. 1976 Jul;22(7):972-6.

[4]. Friedlaender MH, et al. The treatment of herpetic reinfection with levamisole. Am J Ophthalmol. 1978 Aug;86(2):245-9.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA