Ethionamide

Cat. No.: HY-B0276

CAS No.: 536-33-4

Molecular Formula: $C_8H_{10}N_2S$

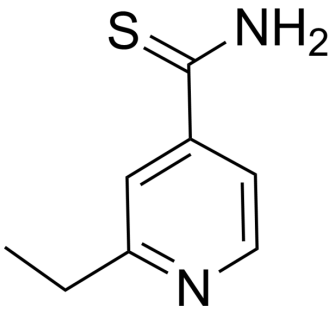
Molecular Weight: 166.24

Target: Bacterial; Antibiotic

Pathway: Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (1503.85 mM; Need ultrasonic)

H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	6.0154 mL	30.0770 mL	60.1540 mL
5 mM	1.2031 mL	6.0154 mL	12.0308 mL
10 mM	0.6015 mL	3.0077 mL	6.0154 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (15.04 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (12.51 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (12.51 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Ethionamide(2-ethylthioisonicotinamide) is an antibiotic used in the treatment of tuberculosis.Target: AntibacterialEthionamide is a second-line antitubercular agent that inhibits mycolic acid synthesis. It also may be used for treatment of leprosy. Ethionamide is a prodrug. It is activated by the enzyme EthA, a mono-oxygenase in Mycobacterium tuberculosis, and binds NAD+ to form an adduct which inhibits InhA in the same way as isoniazid. Expression of the ethA gene is controlled by EthR, a transcriptional repressor. It is understood that improving ethA expression will increase the efficacy of ethionamide and so EthR inhibitors are of great interest to co-drug developers. The action may be through

disruption of mycolic acid [1, 2].

CUSTOMER VALIDATION

- ACS Chem Biol. 2021 Dec 15.

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REFERENCES

[1]. Vannelli, T.A., A. Dykman, and P.R. Ortiz de Montellano, The antituberculosis drug ethionamide is activated by a flavoprotein monooxygenase. J Biol Chem, 2002. 277(15): p. 12824-9.

[2]. Quemard, A., G. Laneelle, and C. Lacave, Mycolic acid synthesis: a target for ethionamide in mycobacteria? Antimicrob Agents Chemother, 1992. 36(6): p. 1316-21.

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