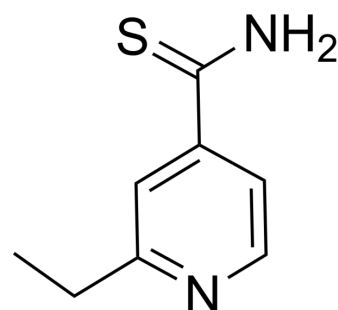


## Ethionamide

Cat. No.:	HY-B0276		
CAS No.:	536-33-4		
Molecular Formula:	C <sub>8</sub> H <sub>10</sub> N <sub>2</sub> S		
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<sub>2</sub>O : < 0.1 mg/mL (insoluble)

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	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: Antibacterial. Ethionamide 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<sup>+</sup> 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

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disruption of mycolic acid [1, 2].

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## CUSTOMER VALIDATION

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- ACS Chem Biol. 2021 Dec 15.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

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- [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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**Caution: Product has not been fully validated for medical applications. For research use only.**

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