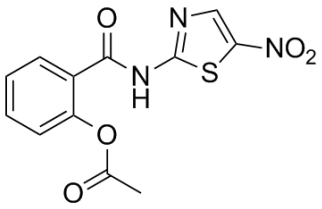
Nitazoxanide

Cat. No.:	HY-B0217
CAS No.:	55981-09-4
Molecular Formula:	$C_{12}H_9N_3O_5S$
Molecular Weight:	307.28
Target:	Influenza Virus; Autophagy
Pathway:	Anti-infection; Autophagy
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



Solvent & Solubility

In Vitro

DMSO : ≥ 100 mg/mL (325.44 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.2544 mL	16.2718 mL	32.5436 mL
	5 mM	0.6509 mL	3.2544 mL	6.5087 mL
	10 mM	0.3254 mL	1.6272 mL	3.2544 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: ≥ 3.25 mg/mL (10.58 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Nitazoxanide is a synthetic nitrothiazolyl-salicylamide derivative and an antiprotozoal agent. (IC50 for canine influenza virus ranges from 0.17 to 0.21 μM).Target: OthersNitazoxanide is a synthetic nitrothiazolyl-salicylamide derivative and an antiprotozoal agent. In vitro studies demonstrated much broader activity. Dr. Rossignol co-founded Romark Laboratories, with the goal of bringing nitazoxanide to market as an anti-parasitic drug. Initial studies in the USA were conducted in collaboration with Unimed Pharmaceuticals, Inc. (Marietta, GA) and focused on development of the drug for treatment of cryptosporidiosis in AIDS.The anti-protozoal activity of nitazoxanide is believed to be due to interference with the pyruvate:ferredoxin oxidoreductase (PFOR) enzyme dependent electron transfer reaction which is essential to anaerobic energy metabolism. It has also been shown to have activity against influenza A virus in vitro. The mechanism appears to be by selectively blocking the maturation of the viral hemagglutinin at a stage preceding resistance to endoglycosidase H digestion. This impairs hemagglutinin intracellular trafficking and insertion

	of the protein into the host plasma membrane.

CUSTOMER VALIDATION

- **Cell Death Dis**. 2018 Oct 9;9(10):1032.

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REFERENCES

[1]. Rossignol JF, et al. Thiazolides, a new class of anti-influenza molecules targeting viral hemagglutinin at the post-translational level. J Biol Chem. 2009 Oct 23;284(43):29798-808.

[2]. Somvanshi VS, et al. Nitazoxanide: Nematicidal mode of action and drug combination studies. Mol Biochem Parasitol. 2014 Jan 8;193(1):1-8.

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