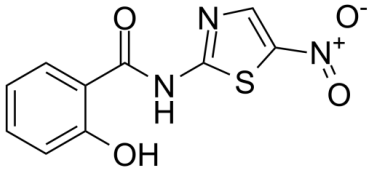
Data Sheet

Product Name:	Tizoxanide
Cat. No.:	CS-3893
CAS No.:	173903-47-4
Molecular Formula:	C10H7N3O4S
Molecular Weight:	265.25
Target:	Autophagy; Bacterial
Pathway:	Anti-infection; Autophagy
Solubility:	DMSO : ≥ 38 mg/mL (143.26 mM)



BIOLOGICAL ACTIVITY:

Tizoxanide is the active metabolite of Nitazoxanide, which is a thiazolide anti-infective compound against anaerobic bacteria, protozoa, and a range of viruses. IC50 value: Target: Antiviral agent in vitro: Tizoxanide inhibited virus replication of all CIVs with 50% and 90% inhibitory concentrations ranging from 0.17 to 0.21 μM and from 0.60 to 0.76 μM, respectively [2]. Nitazoxanide and its primary metabolite, tizoxanide, inhibit hepatitis C virus (HCV) replication in HCV replicon systems. Interestingly, serial passage in nitazoxanide or tizoxanide resulted in increased sensitivity to alpha interferon 2b: EC(50)s and EC(90)s were reduced three- and eightfold, respectively [3].

PROTOCOL (Extracted from published papers and Only for reference)

Cell assay [2] Confluent monolayers of MDCK cells cultured in 96-well tissue culture plates were infected at a multiplicity of infection (MOI) of 0.001 with Ca/CO-1, Ca/CO-3, or Ca/CO-4. Infected plates were incubated with agitation for 2 hours at 37°C with 5% CO2. After incubation, the virus inoculum was removed and 200 μL of working solutions of NTZ or TIZ, at concentrations ranging from 0.001 μM to 4.0 μM, were added to each well. Positive (no NTZ or TIZ) and negative (no virus) control samples as well as a 1% DMSO control were included in each experiment. Plates were then incubated at 37°C with 5% CO2 for 72 hours. The virus titer in cell culture supernatants of each well, expressed as tissue culture infective dose (TCID)50 per mL, was calculated using the method of Reed and Muench as previously described [17].

References:

[1]. Korba BE, et al. Nitazoxanide, tizoxanide and other thiazolides are potent inhibitors of hepatitis B virus and hepatitis C virus replication. Antiviral Res. 2008 Jan;77(1):56-63.

[2]. Ashton LV, et al. In Vitro Susceptibility of Canine Influenza A (H3N8) Virus to Nitazoxanide and Tizoxanide. Vet Med Int. 2010 Aug 12;2010. pii: 891010.

[3]. Korba BE, et al. Potential for hepatitis C virus resistance to nitazoxanide or tizoxanide. Antimicrob Agents Chemother. 2008 Nov;52(11):4069-71.

CAIndexNames:

Benzamide, 2-hydroxy-N-(5-nitro-2-thiazolyl)-

SMILES:

O=C(NC1=NC=C([N+]([O-])=O)S1)C2=CC=CC=C2O

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

Tel: 732-484-9848 Fax: 888-484-5008 E-mail: sales@ChemScene.com

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