

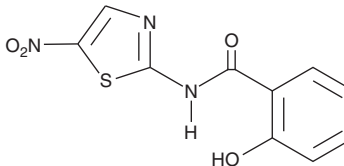
# PRODUCT INFORMATION



## Tizoxanide

Item No. 13693

**CAS Registry No.:** 173903-47-4  
**Formal Name:** 2-hydroxy-N-(5-nitro-2-thiazolyl)-benzamide  
**Synonym:** NSC 697856  
**MF:** C<sub>10</sub>H<sub>7</sub>N<sub>3</sub>O<sub>4</sub>S  
**FW:** 265.3  
**Purity:** ≥95%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Tizoxanide is supplied as a crystalline solid. A stock solution may be made by dissolving the tizoxanide in the solvent of choice. Tizoxanide is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of tizoxanide in these solvents is approximately 5 mg/ml.

Tizoxanide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, tizoxanide should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Tizoxanide has a solubility of approximately 0.1 mg/ml in a 1:9 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Tizoxanide is an active metabolite of the antiparasitic nitazoxanide (Item No. 13692).<sup>1</sup> Tizoxanide is formed from nitazoxanide via deacetylation of nitazoxanide in the stomach. It is active against *M. tuberculosis* (MIC = 16 µg/ml). It also reduces the growth of the disease-causing parasites *L. mexicana* and *T. cruzi* *in vitro* (IC<sub>50</sub>s = 6.2 and 17.5 µM, respectively), inhibits influenza A replication (EC<sub>50</sub>s = 0.3-1 µM), and inhibits hepatitis B and hepatitis C virus replication (EC<sub>50</sub> = 0.15 µM for both).<sup>2-4</sup>

### References

1. de Carvalho, L.P.S., Lin, G., Jiang, X., *et al.* Nitazoxanide kills replicating and nonreplicating Mycobacterium tuberculosis and evades resistance. *J. Med. Chem.* **52**(19), 5789-5792 (2009).
2. Korba, B.E., Montero, A.B., Farrar, K., *et al.* Nitazoxanide, tizoxanide and other thiazolides are potent inhibitors of hepatitis B virus and hepatitis C virus replication. *Antiviral Res.* **77**(1), 56-63 (2008).
3. Chan-Bacab, M.J., Hernández-Núñez, E., and Navarrete-Vázquez, G. Nitazoxanide, tizoxanide and a new analogue [4-nitro-N-(5-nitro-1,3-thiazol-2-yl)benzamide; NTB] inhibit the growth of kinetoplastid parasites (*Trypanosoma cruzi* and *Leishmania mexicana*) *in vitro*. *J. Antimicrob. Chemother.* **63**(6), 1292-1293 (2009).
4. Rossignol, J.F., La Frazia, S., Chiappa, L., *et al.* Thiazolides, a new class of anti-influenza molecules targeting viral hemagglutinin at the post-translational level. *J. Biol. Chem.* **284**(43), 29798-29808 (2009).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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