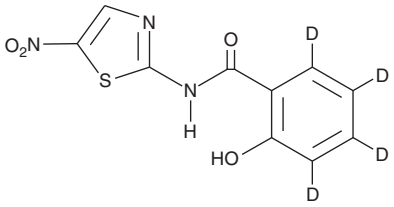
PRODUCT INFORMATION

Tizoxanide-d_4

Item No. 28533

CAS Registry No.: 1246817-56-0
Formal Name: 2-hydroxy-N-(5-nitro-2-thiazolyl)-benzamide-3,4,5,6-d_4
MF: $C_{10}H_3D_4N_3O_4S$
FW: 269.3
Chemical Purity: ≥98% (Tizoxanide)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_4); ≤1% d_0
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Tizoxanide-d_4 is intended for use as an internal standard for the quantification of tizoxanide (Item No. 13693) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Tizoxanide-d_4 is supplied as a solid. A stock solution may be made by dissolving the tizoxanide-d_4 in the solvent of choice, which should be purged with an inert gas. Tizoxanide-d_4 is soluble in DMSO and methanol.

Description

Tizoxanide is an active metabolite of the antiparasitic nitazoxanide (Item No. 13692).[1] 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_{50}s = 6.2 and 17.5 µM, respectively), inhibits influenza A replication (EC_{50}s = 0.3-1 µM), and inhibits hepatitis B and hepatitis C virus replication (EC_{50} = 0.15 µM for both).[2-4]

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. 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).
3. 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).
4. 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).

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