

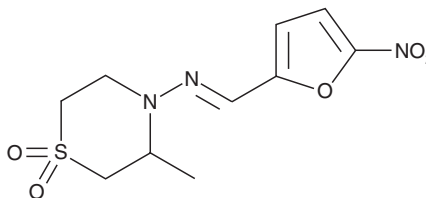
PRODUCT INFORMATION



Nifurtimox

Item No. 21784

CAS Registry No.: 23256-30-6
Formal Name: 3-methyl-N-[(5-nitro-2-furanyl)methylene]-4-thiomorpholinamine, 1,1-dioxide
Synonyms: BAY-2502, BAY-A-2502
MF: C₁₀H₁₃N₃O₅S
FW: 287.3
Purity: ≥98%
UV/Vis.: λ_{max}: 275, 399 nm
Supplied as: A crystalline 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

Nifurtimox is supplied as a crystalline solid. A stock solution may be made by dissolving the nifurtimox in the solvent of choice. Nifurtimox is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of nifurtimox in these solvents is approximately 20 and 30 mg/ml, respectively.

Description

Nifurtimox is an antiprotozoal agent.¹ It is active against Taluahuén, LQ, and Brener strains of *T. cruzi* epimastigotes with IC₅₀ values of 9.91, 12.28, and 10.44 μM, respectively. Nifurtimox inhibits clonogenic growth of HCT116, H838, C33A, LN18, KNS42, MDA-MB-231, and FaDu tumor cells under hypoxic conditions.² It reduces parasitemia and increases survival in a mouse model of *T. cruzi* infection when administered at doses of 10 and 40 mg/kg per day.³ Dietary administration of nifurtimox (150 mg/kg per day for 28 days) increases tumor cell apoptosis and reduces tumor growth in an SMS-KCNR mouse xenograft model.⁴

References

1. Maya, J.D., Bollo, S., Nuñez-Vergara, L.J., *et al.* Trypanosoma cruzi: Effect and mode of action of nitroimidazole and nitrofuran derivatives. *Biochem. Pharmacol.* **65**(6), 999-1006 (2003).
2. Li, Q., Lin, Q., Kim, H., *et al.* The anti-protozoan drug nifurtimox preferentially inhibits clonogenic tumor cells under hypoxic conditions. *Am. J. Cancer Res.* **7**(5), 1084-1095 (2017).
3. Santeliz, S., Caicedo, P., Giraldo, E., *et al.* Dipyrindamole potentiated the trypanocidal effect of nifurtimox and improved the cardiac function in NMRI mice with acute chagasic myocarditis. *Mem. Inst. Oswaldo Cruz* **112**(9), 596-608 (2017).
4. Saulnier Sholler, G.L., Brard, L., Straub, J.A., *et al.* Nifurtimox induces apoptosis of neuroblastoma cells in vitro and in vivo. *J. Pediatr. Hematol. Oncol.* **31**(3), 187-193 (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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