

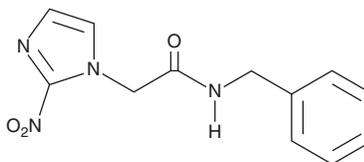
# PRODUCT INFORMATION



## Benznidazole

Item No. 29090

**CAS Registry No.:** 22994-85-0  
**Formal Name:** 2-nitro-N-(phenylmethyl)-1H-imidazole-1-acetamide  
**Synonyms:** NSC 299972, Ro 07-1051  
**MF:** C<sub>12</sub>H<sub>12</sub>N<sub>4</sub>O<sub>3</sub>  
**FW:** 260.3  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 316 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

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

Benznidazole is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, benznidazole should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Benznidazole has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Benznidazole is an orally bioavailable antiprotozoal agent.<sup>1</sup> It is a 2-nitroimidazole prodrug that becomes active when the nitro group is reduced within the parasite.<sup>5</sup> It inhibits the growth of the parasites *T. cruzi*, *T. vaginalis*, *G. lamblia*, and *E. histolytica* (IC<sub>50</sub>s = 8.1, 18.62, 22.58, and 4.27 μM, respectively).<sup>2,3</sup> It also inhibits clonogenic growth of human C33A cervical and KNS42 glioblastoma cancer cells under hypoxic, but not normoxic, conditions when used at a concentration of 100 μM.<sup>4</sup> Benznidazole (100 mg/kg per day) decreases *T. cruzi* blood parasitemia to below detectable levels in a mouse model of chronic stable Chagas disease.<sup>1</sup> Formulations containing benznidazole have been used in the treatment of Chagas disease caused by *T. cruzi*.

### References

1. Khare, S., Liu, W., Stinson, M., et al. *Antimicrob. Agents Chemother.* **59(10)**, 6385-6394 (2015).
2. Cogo, J., de Oliveira Caleare, A., Ueda-Nakamura, T., et al. *Phytomedicine* **20(1)**, 59-66 (2012).
3. Hernández-Núñez, E., Tlahuext, H., Moo-Puc, R., et al. *Molecules* **22(4)**, E579 (2017).
4. Li, Q., Lin, Q., and Yun, Z. *Cancer Biol. Ther.* **17(12)**, 1266-1273 (2016).
5. Trochine, A., Creek, D.J., Faral-Tello, P., et al. *PLoS Negl. Trop. Dis.* **8(5)**, e2844 (2014).

#### 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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