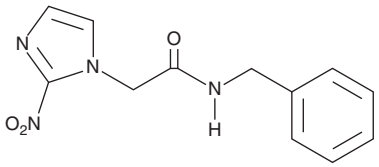
PRODUCT INFORMATION

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:	$C_{12}H_{12}N_4O_3$
FW:	260.3
Purity:	≥95%
UV/Vis.:	λ_{max}: 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.[1] It is a 2-nitroimidazole prodrug that becomes active when the nitro group is reduced within the parasite.[5] It inhibits the growth of the parasites *T. cruzi*, *T. vaginalis*, *G. lamblia*, and *E. histolytica* (IC_{50}s = 8.1, 18.62, 22.58, and 4.27 µM, respectively).[2,3] 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.[4] Benznidazole (100 mg/kg per day) decreases *T. cruzi* blood parasitemia to below detectable levels in a mouse model of chronic stable Chagas disease.[1] 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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM