# Benznidazole

**Cat. No.:** HY-B1548

**CAS No.:** 22994-85-0

**Molecular Formula:** $C_{12}H_{12}N_4O_3$

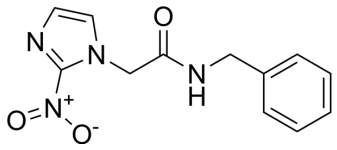
**Molecular Weight:** 260.25

**Target:** Parasite; Antibiotic

**Pathway:** Anti-infection

**Storage:**

| | | |
|---|---|---|
| Powder | -20°C | 3 years |
| | 4°C | 2 years |
| In solvent | -80°C | 2 years |
| | -20°C | 1 year |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 50 mg/mL (192.12 mM; Need ultrasonic)

| Preparing Stock Solutions | Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 3.8425 mL | 19.2123 mL | 38.4246 mL |
| | 5 mM | 0.7685 mL | 3.8425 mL | 7.6849 mL |
| | 10 mM | 0.3842 mL | 1.9212 mL | 3.8425 mL |

Please refer to the solubility information to select the appropriate solvent.

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (7.99 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (7.99 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (7.99 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

Benznidazole (Ro 07-1051) is an antiparasitic medication, with an $IC_{50}$ of 20.35 μM for Colombian T. cruzi strains, and has been used in the treatment of Chagas disease[1][2].

**$IC_{50}$ & Target**

Trypanosoma

**In Vivo**

Benznidazole (100 mg/kg/day, p.o., 30 days) produces a decrease in electrocardiographic alterations, fewer modifications in the affinity and density of cardiac-receptors, and few isolated areas of fibrosis in the heart, in mice infected with

Trypanosoma cruzi Tulahuen strain or SGO-Z12 isolate and treated at 180 days post infection (p.i.) (i.e. chronic phase) with Benznidazole[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

| | |
|---|---|
| Animal Model: | Mice infected with Trypanosoma cruzi Tulahuen strain or SGO-Z12[1] |
| Dosage: | 100 mg/kg/day |
| Administration: | Orally for 30 days |
| Result: | Produced a decrease in electrocardiographic alterations, fewer modifications in the affinity and density of cardiac-receptors, and few isolated areas of fibrosis in the heart. |

## CUSTOMER VALIDATION

- Nat Commun. 2023 Oct 25;14(1):6769.
- bioRxiv. 2023 Jul 12.
- Research Square Print. 2023 Jan 20;rs.3.rs-2497474.

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## REFERENCES

[1]. Bustamante JM, et al. Treatment with benznidazole or thioridazine in the chronic phase of experimental Chagas disease improves cardiopathy. Int J Antimicrob Agents. 2007 Jun;29(6):733-7.

[2]. Luna KP, et al. In vitro susceptibility of Trypanosoma cruzi strains from Santander, Colombia, to hexadecylphosphocholine (miltefosine), nifurtimox and benznidazole. Biomedica. 2009 Sep;29(3):448-55.



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