

Product Name: Ivermectin

Catalog No.: 1260

Batch No.: 1

CAS Number: 70288-86-7

EC Number: 274-536-0

IUPAC Name: 22,23-Dihydroavermectin B1

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₄₈H₇₄O₁₄ (B_{1a} form)

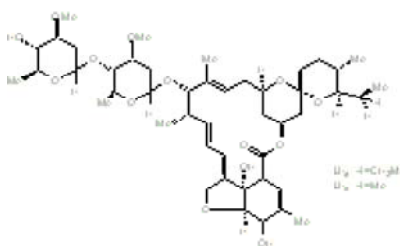
Batch Molecular Weight: 875.1

Physical Appearance: White solid

Solubility: DMSO to 50 mM

Storage: Desiccate at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.71 (Pyridine:Acetic acid:Water:Butanol [3:8:11:33])

Melting Point: Between 168 - 171°C

HPLC: Shows 96.8% purity

¹H NMR: Consistent with structure

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

bio-techne.com

info@bio-techne.com

techsupport@bio-techne.com

North America

Tel: (800) 343 7475

China

info.cn@bio-techne.com

Tel: +86 (21) 52380373

Europe Middle East Africa

Tel: +44 (0)1235 529449

Rest of World

www.tocris.com/distributors

Tel:+1 612 379 2956

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IUPAC Name: 22,23-Dihydroavermectin B1

Description:

Positive allosteric modulator of the $\alpha 7$ neuronal nicotinic acetylcholine receptor and the purinergic P2X₄ receptor. Antihelmintic. Also modulates glutamate- and GABA-activated chloride channels. Potentiates glycine-gated currents at low concentrations (30 nM). This product is composed of both Ivermectin B_{1a} (>90%) and Ivermectin B_{1b}. Deuterated analog also available.

Physical and Chemical Properties:

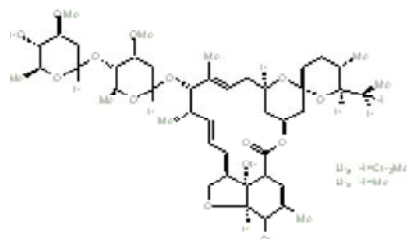
Batch Molecular Formula: C₄₈H₇₄O₁₄ (B_{1a} form)

Batch Molecular Weight: 875.1

Physical Appearance: White solid

Minimum Purity: >96%

Batch Molecular Structure:



References:

Shan et al (2001) Ivermectin, an unconventional agonist of the glycine receptor chloride channel. *J.Biol.Chem.* **276** 12556. PMID: 11278873.

Adelsberger et al (2000) Activation of rat recombinant $\alpha 1\beta 2\gamma 2S$ GABA_A receptor by the insecticide ivermectin. *Eur.J.Pharmacol.* **394** 163. PMID: 10771281.

Khakh et al (1999) Allosteric control of gating and kinetics at P2X₄ receptor channels. *J.Neurosci.* **19** 7289. PMID: 10460235.

Krause et al (1998) Ivermectin: a positive allosteric effector of the $\alpha 7$ neuronal nicotinic acetylcholine receptor. *Mol.Pharmacol.* **53** 283. PMID: 9463487.

Merck Index **12** 5264.

Storage: Desiccate at +4°C

Solubility & Usage Info:

DMSO to 50 mM

This product is composed of both Ivermectin B_{1a} (>90%) and Ivermectin B_{1b}. Molecular weight: 875.10 (Ivermectin B_{1a}), 861.08 (Ivermectin B_{1b}).

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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