

Product Data Sheet

Product Name: Milbemectin

Cat. No.: GC47676

Chemical Properties

Cas. No. 1799297-76-9

SMILES C/C(C[C@@H](C)/C=C/C=C(CO1)/[C@@]([C@@]1([H])[C@H](O)C(C)=C2)(O)[C@]2([H])C3=O)=C\C[C@]4([H])C[C@@](O3)([H])C[C@@]5(O[C@]([H])(C)[C@@H](C)CC5)O4.C/C(C[C@@H](C)/C=C/C=C(CO6)/[C@@]([C@@]6([H])[C@H](O)C(C)=C7)(O)[C@]7([H])C8=O)=C\C[C@]9([H])C[C@@](O8)([H])C[C@@]10(O[C@]([H])(CC)[C@@H](C)CC10)O9

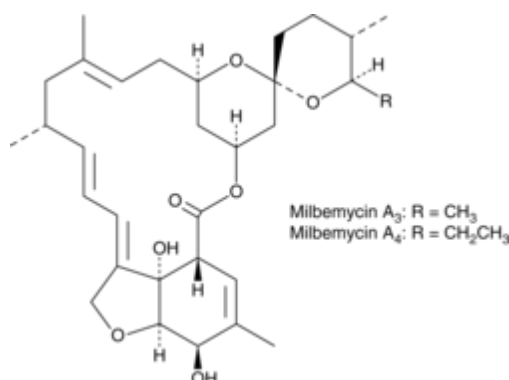
Formula C31H44O7 (A3) and C32H46O7 (A4) M.Wt 0

Solubility DMF: Soluble, DMSO: Storage Store at -20°C
Soluble, Ethanol: Soluble, Methanol: Soluble

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

Milbemectin is an insecticide used primarily to control mites.¹ Milbemectin is a mixture of milbemycin A₃ and milbemycin A₄ that has acaricidal and nematocidal activity against adult spider mites, spider mite eggs, and *C. elegans* with IC₅₀ values of 5.3, 41.1, and 9.5 µg/ml, respectively.² It acts as an

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allosteric agonist of the *Drosophila* RDL GABA receptor.³ It is also effective against the pinewood nematode, *B. xylophilus* with an LC₂₀ of 0.0781 mg/liter.⁴

1. Macroyclic Insecticides Metabolic Pathways of Agrochemicals, Part 2: Insecticides and Fungicides (Metabolic Pathways) 95-98 (1999)
2. Yang, L.Y., Wang, J.D., Zhang, J., et al. New nemadectin congeners with acaricidal and nematocidal activity from *Streptomyces microflavus* neau3 Y-3 Bioorg. Med. Chem. Lett. 23(20) 5710-5713 (2013)
3. Nakao, T., Banba, S., and Hirase, K. Comparison between the modes of action of novel meta-diamide and macrocyclic lactone insecticides on the RDL GABA receptor. Pestic. Biochem. Physiol. 120 101-108 (2015)
4. Bi, Z., Gong, Y., Huang, X., et al. Efficacy of four nematicides against the reproduction and development of pinewood nematode, *Bursaphelenchus xylophilus*. J. Nematol. 47(2) 126-132 (2015)

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