

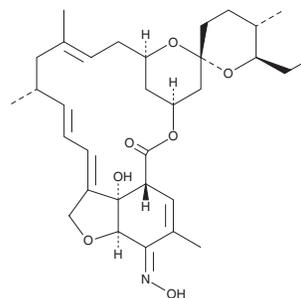
PRODUCT INFORMATION



Milbemycin A₄ oxime

Item No. 27938

CAS Registry No.: 93074-04-5
Formal Name: (6R,25R)-5-demethoxy-28-deoxy-6,28-epoxy-25-ethyl-5-(hydroxyimino)-milbemycin B
Synonyms: 5-Ketomilbemycin A₄ oxime, 5-Oxomilbemycin A₄ 5-oxime
MF: C₃₂H₄₅NO₇
FW: 555.7
Purity: ≥99%
Supplied as: A 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

Milbemycin A₄ oxime is supplied as a solid. A stock solution may be made by dissolving the milbemycin A₄ oxime in the solvent of choice, which should be purged with an inert gas. Milbemycin A₄ oxime is soluble in ethanol, methanol, DMSO, and dimethyl formamide.

Description

Milbemycin A₄ oxime is a derivative of milbemycin A₄ (Item No. 17155) and a component of milbemycin oxime (Item No. 17164), compounds that both have insecticidal and nematocidal activity.^{1,2} Milbemycin A₄ oxime (0.05 mg/kg) reduces the number of microfilariae of the heartworm *D. immitis* in naturally infested dogs.³ It inhibits the growth of clinical isolates of *C. glabrata* with MIC₈₀ values ranging from 16 to greater than 32 µg/ml.¹ Milbemycin A₄ oxime (2.5 µg/ml) blocks efflux of fluconazole (Item No. 11594) from a clinical isolate of *C. glabrata*, but not from a strain lacking the efflux pumps CgCDR1 and PDH1, and reduces the MICs of fluconazole and 4-nitroquinoline 1-oxide in wild-type *C. glabrata*. It enhances adriamycin-induced inhibition of cell growth, as well as increases the intracellular accumulation of adriamycin and the P-glycoprotein substrate rhodamine 123 (Item No. 16672), in adriamycin-resistant, but not -sensitive, MCF-7 breast cancer cells in a concentration-dependent manner.⁴

References

1. Walker, B., Izumikawa, K., Tsai, H.F., *et al.* Milbemycin A₄ oxime as a probe of azole transport in *Candida glabrata*. *FEMS Yeast Res.* **14(5)**, 755-761 (2014).
2. Xu, Q., Li, J., Shen, Z., *et al.* An LC-MS method for determination of milbemycin oxime in dog plasma. *J. Chromatogr. Sci.* **52(9)**, 999-1004 (2014).
3. Tsukamoto, Y., Sato, K., Mio, S., *et al.* Synthesis of 5-keto-5-oxime derivatives of milbemycins and their activities against microfilariae. *Agric. Biol. Chem.* **55(10)**, 2615-2621 (1991).
4. Xiang, W., Gao, A.H., Liang, H., *et al.* Reversal of P-glycoprotein-mediated multidrug resistance *in vitro* by milbemycin compounds in adriamycin-resistant human breast carcinoma (MCF-7/adr) cells. *Toxicol. In Vitro* **24(6)**, 1474-1481 (2010).

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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