

Product data sheet



MedKoo Cat#: 319518 Name: Milbemycin oxime CAS#: 129496-10-2 (oxime) Chemical Formula: N/A (mixture)		
Product supplied as:	Powder	
Purity (by HPLC):	≥ 98%	
Shipping conditions	Ambient temperature	
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.	
	In solvent: -80°C 3 months; -20°C 2 weeks.	

1. Product description:

Milbemycin oxime is a veterinary drug from the group of milbemycins, used as a broad spectrum antiparasitic. It is active against worms (anthelmintic), insects (insecticide) and mites (miticide). Milbemycin oxime is a semi-synthetic macrocyclic lactone prepared by the oxidation and oximation of an 80:20 ratio of milbemycin A3 and A. Like avermectins, milbemycins are products of fermentation by *Streptomyces* species. They have a similar mechanism of action, but a longer half-life than the avermectins. Milbemycin oxime is produced by *Streptomyces hygroscopicus aureolacrimosus*. It opens glutamate sensitive chloride channels in neurons and myocytes of invertebrates, leading to hyperpolarisation of these cells and blocking of signal transfer.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	100.0	91.13

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	Infinity mL	Infinity mL	Infinity mL
5 mM	Infinity mL	Infinity mL	Infinity mL
10 mM	Infinity mL	Infinity mL	Infinity mL
50 mM	Infinity mL	Infinity mL	Infinity mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

TBD

In vivo study

1. Bienhoff SE, Kok DJ, Roycroft LM, Roberts ES. Efficacy of a single oral administration of milbemycin oxime against natural infections of *Ancylostoma braziliense* in dogs. *Vet Parasitol.* 2013 Jul 1;195(1-2):102-5. doi: 10.1016/j.vetpar.2013.01.004. Epub 2013 Jan 16. PMID: 23375194.

7. Bioactivity

Biological target:

Milbemycin oxime is a macrocyclic lactone that has broad-spectrum anti-parasitic activity and activity against intestinal nematodes, pulmonary, and cardiac helminths.

Product data sheet



In vitro activity

TBD

In vivo activity

Dogs treated with Interceptor or Sentinel received a mean milbemycin oxime dose of 0.57 ± 0.08 and 0.57 ± 0.05 mg/kg, respectively. All dogs were reported as being over 10 months of age and the weight ranged from 4.7 to 21.3 kg two days prior to dosing (weight used to determine dose). There were no significant differences in body weights between treatment groups. Of the 12 dogs in the placebo control group, seven had more than 20 *A. braziliense* isolated at necropsy and 10 had more than five isolated at necropsy (range 10–100) indicating the presence of an adequate infection in the study dogs. Statistically, both milbemycin treatment groups had significantly ($p < 0.0001$) fewer *A. braziliense* isolated at necropsy when compared to the placebo control group. No adverse events were reported nor were there any significant reductions in body weight observed indicating milbemycin oxime in these formulations was well tolerated.

Reference: Vet Parasitol. 2013 Jul 1;195(1-2):102-5. <https://pubmed.ncbi.nlm.nih.gov/23375194/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.