

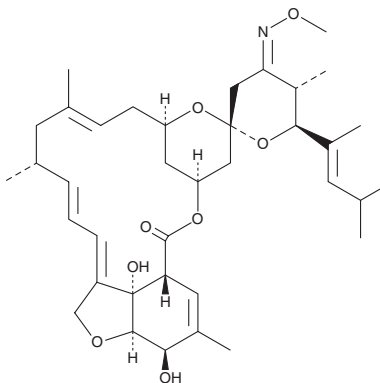
# PRODUCT INFORMATION



## Moxidectin

Item No. 17165

**CAS Registry No.:** 113507-06-5  
**Formal Name:** (6R,23E,25S)-5-O-demethyl-28-deoxy-25-[(1E)-1,3-dimethyl-1-buten-1-yl]-6,28-epoxy-23-(methoxyimino)-milbemycin B  
**Synonym:** CL-301423  
**MF:** C<sub>37</sub>H<sub>53</sub>NO<sub>8</sub>  
**FW:** 639.8  
**Purity:** ≥90%  
**UV/Vis.:** λ<sub>max</sub>: 244 nm  
**Supplied as:** A crystalline 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

Moxidectin is supplied as a crystalline solid. A stock solution may be made by dissolving the moxidectin in the solvent of choice, which should be purged with an inert gas. Moxidectin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of moxidectin in these solvents is approximately 25, 20, and 30 mg/ml, respectively.

### Description

Moxidectin is a macrocyclic lactone endectocide and a derivative of nemadectin.<sup>1,2</sup> It reduces fecal nematode egg counts by 98.4 and 99.8% in naturally infected calves when administered subcutaneously at doses of 0.2 and 0.3 mg/kg, respectively.<sup>2</sup> Moxidectin (0.2 and 0.3 mg/kg) reduces the worm burden of *O. ostertagi* and *T. axei* in the abomasum, and *Cooperia* species and *N. helvetianus* in the small intestine, of naturally infected calves. It potentiates GABA-gated currents in *Xenopus* oocytes expressing rat α<sub>1</sub>β<sub>2</sub>γ<sub>2</sub> subunit-containing GABA<sub>A</sub> receptors with an EC<sub>50</sub> value of 11.8 nM.<sup>3</sup> Formulations containing moxidectin have been used in the treatment of onchocerciasis, as well as in the prevention and treatment of parasitic infections in veterinary medicine.

### References

1. Kumar, A., Byun, H.S., Bittman, R., *et al.* The sphingolipid degradation product trans-2-hexadecenal induces cytoskeletal reorganization and apoptosis in a JNK-dependent manner. *Cell. Signal.* **23(7)**, 1144-1152 (2011).
2. Ranjan, S., Trudeau, C., Prichard, R.K., *et al.* Efficacy of moxidectin against naturally acquired nematode infections in cattle. *Vet. Parasitol.* **41(3-4)**, 227-231 (1992).
3. Ménez, C., Sutra, J.-F., Prichard, R., *et al.* Relative neurotoxicity of ivermectin and moxidectin in Mdr1ab (-/-) mice and effects on mammalian GABA(A) channel activity. *PLoS Negl. Trop. Dis.* **6(11)**, e1883 (2012).

#### 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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