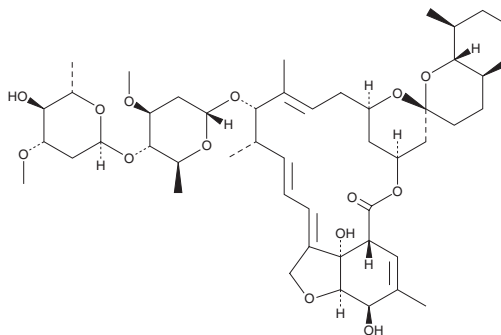


# PRODUCT INFORMATION



## Ivermectin B<sub>1a</sub> Item No. 18768

**CAS Registry No.:** 71827-03-7  
**Formal Name:** 5-O-demethyl-22,23-dihydro-avermectin A<sub>1a</sub>  
**Synonym:** 22,23-dihydro Avermectin B<sub>1a</sub>  
**MF:** C<sub>48</sub>H<sub>74</sub>O<sub>14</sub>  
**FW:** 875.1  
**Purity:** ≥95%  
**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

Ivermectin B<sub>1a</sub> is supplied as a solid. A stock solution may be made by dissolving the ivermectin B<sub>1a</sub> in the solvent of choice, which should be purged with an inert gas. Ivermectin B<sub>1a</sub> is soluble in the organic solvent DMSO.

### Description

Ivermectin B<sub>1a</sub> is the main component (>80%) of the anthelmintic ivermectin, which also contains ivermectin B<sub>1b</sub> (<20%; Item No. 23824).<sup>1</sup> It produces antiparasitic activity by binding to glutamate-gated chloride channels expressed on nematode neurons and pharyngeal muscle cells, inducing irreversible channel opening and very long-lasting hyperpolarization/depolarization of the neuron/muscle cell, thereby blocking further function (EC<sub>50</sub> = 104 nM).<sup>2,3</sup> Formulations containing ivermectin inhibit replication of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in Vero/hSLAM cells.<sup>4</sup>

### References

1. Campbell, W.C., Fisher, M.H., Stapley, E.O., *et al.* Ivermectin: A potent new antiparasitic agent. *Science* **221(4613)**, 823-828 (1983).
2. Wolsethholme, A.J. and Rogers, A.T. Glutamate-gated chloride channels and the mode of action of the avermectin/milbemycin anthelmintics. *Parasitology* **131(Suppl)**, S85-S95 (2005).
3. Arena, J.P., Liu, K.K., Pares, P.S., *et al.* The mechanism of action of avermectins in *Caenorhabditis elegans*: Correlation between activation of glutamate-sensitive chloride current, membrane binding, and biological activity. *J. Parasitol.* **81(2)**, 286-294 (1995).
4. Caly, L., Druce, J.D., Catton, M.G., *et al.* The FDA-approved drug ivermectin inhibits the replication of SARS-CoV-2 *in vitro*. *Antiviral Res.* **178:104787** (2020).

#### 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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