

# Ivermectin

**Catalog No: tcsc0720**



## Available Sizes

**Size:** 500mg

**Size:** 1g



## Specifications

**CAS No:**

70288-86-7

**Formula:**

$C_{48}H_{74}O_{14}$

**Pathway:**

Autophagy;Anti-infection;Autophagy

**Target:**

Autophagy;Parasite;Mitophagy

**Purity / Grade:**

>98%

**Solubility:**

DMSO :  $\geq 50$  mg/mL (57.14 mM); H<sub>2</sub>O :

**Alternative Names:**

MK-933

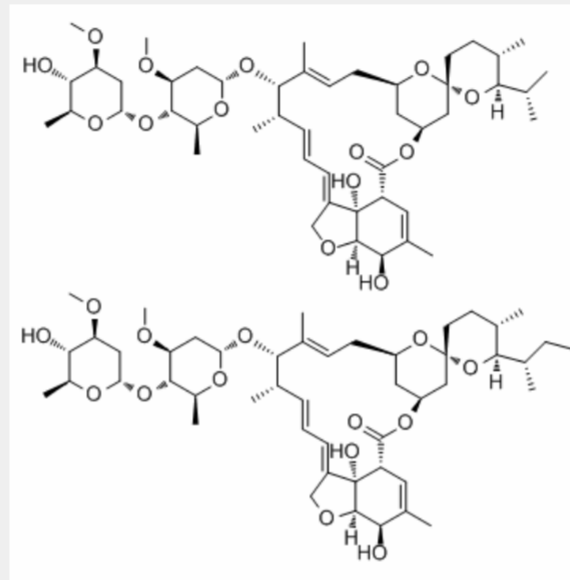
**Observed Molecular Weight:**

875.09

## Product Description

Ivermectin (MK-933) is a widely used antiparasitic agent in human and veterinary medicine. It is a positive allosteric effector of **P2X<sub>4</sub>** and the  $\alpha 7$  neuronal nicotinic acetylcholine receptor (**nAChRs**).

**In Vitro:** Ivermectin (MK-933; IVM) is a specific positive allosteric effector of heterologously expressed P2X<sub>4</sub> and possibly of heteromeric P2X<sub>4</sub>/P2X<sub>6</sub> channels. In the submicromolar range (EC<sub>50</sub>=250 nM) the action of IVM is rapid and reversible, resulting in increased amplitude and slowed deactivation of P2X<sub>4</sub> channel currents evoked by ATP. Ivermectin (MK-933; IVM) also markedly increases the potency of ATP and that of the normally low-potency agonist  $\alpha$ , $\beta$ -methylene-ATP in a use- and voltage-independent manner without changing the ion selectivity of P2X<sub>4</sub> channels<sup>[1]</sup>. Ivermectin (MK-933; IVM) activates glutamate-gated chloride channels in the nerves and muscles of the parasite, leading to membrane hyperpolarization and muscle paralysis. The major mode of action of Ivermectin (MK-933; IVM) is most likely the disruption of ingestive activity of the parasite, resulting in starvation<sup>[2]</sup>. Preapplication of ivermectin, in the micromolar range, strongly enhances the subsequent acetylcholine-evoked current of the neuronal chick or human  $\alpha$ 7 nicotinic acetylcholine receptors reconstituted in *Xenopus laevis* oocytes and K-28 cells<sup>[3]</sup>. Ivermectin activates the rat recombinant  $\alpha$ <sub>1</sub> $\beta$ <sub>2</sub> $\gamma$ <sub>2s</sub> GABA<sub>A</sub> receptor. Activation of the channel with 10 mM GABA results in currents rising within 1 ms to their maximal amplitudes. The EC<sub>50</sub> value for GABA is 7.5  $\mu$ M<sup>[4]</sup>.



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!