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# Ivermectin

National Cancer Institute

## Source

National Cancer Institute. *Ivermectin*. NCI Thesaurus. Code C61796.

A macrocyclic lactone derived from *Streptomyces avermitilis* with antiparasitic activity. Ivermectin exerts its anthelmintic effect via activating glutamate-gated chloride channels expressed on nematode neurons and pharyngeal muscle cells. Distinct from the channel opening induced by endogenous glutamate transmitter, ivermectin-activated channels open very slowly but essentially irreversibly. As a result, neurons or muscle cells remain at either hyperpolarisation or depolarization state, thereby resulting in paralysis and death of the parasites. Ivermectin does not readily pass the mammal blood-brain barrier to the central nervous system where glutamate-gated chloride channels locate, hence the hosts are relatively resistant to the effects of this agent.