VERMICORE T

BROAD-SPECTRUM ANTIPARASITIC

ORAL SUSPENSION

Health Registration No.: 3A1-2-9945-AGROCALIDAD

Formula:

Each 100 mL contains:

Ivermectin	0.025 g
Albendazole	15.0 g
Praziquantel	5.0 g
Excipients q.s.	100 ml

SPECIES AND DOSAGE:



DOSAGE

Species	Reference Dose	Practical Dose
Canines	Ivermectin: 0.05 mg/kg Albendazole: 30 mg/kg Praziquantel: 10 mg/kg	1 mL / 5 kg

ROUTE OF ADMINISTRATION: Oral.
Single dose. Administer again only if recommended by the veterinarian.

INDICATIONS:

VERMICORE T is a broad-spectrum antiparasitic indicated for the control of the main parasitic infections affecting dogs, such as nematodes and cestodes, and is active against: Toxocara canis, Ancylostoma caninum, Uncinaria stenocephala, Strongyloides spp., Trichuris vulpis, Dipylidium caninum, Taenia spp., Echinococcus granulosus, E. multilocularis, E. vogeli, Joyeuxiella pasqualei, and Dirofilaria immitis.

It is also used as an adjunct in the treatment of ectoparasites, such as fleas, lice, ticks, and mites.

ROUTE OF ADMINISTRATION: Oral

PHARMACOKINETICS:

Ivermectin
In monogastric animals, ivermectin is absorbed following oral administration. Although bioavailability is higher after subcutaneous (SC) administration, absorption following oral administration is faster than after SC administration. Ivermectin is well distributed throughout most tissues but does not readily penetrate the cerebrospinal fluid, thereby minimizing its toxicity; however, certain dog breeds—such as Collies, Australian Shepherds, Shetland Sheepdogs, and herding dog crossbreeds—carry a mutation in the MDR1 gene, which allows ivermectin to enter the central nervous system (CNS), potentially causing poisoning and death. It is metabolized in the liver via oxidative pathways and is excreted primarily in the feces. Less than 5% of the drug (as the parent compound or as metabolites) is excreted in the urine.

The pharmacokinetic parameters of ivermectin have been documented for many species:
• Dogs: bioavailability: 0.95; volume of distribution: 2.4 L/kg; elimination half-life: 2 days.
• Cattle: volume of distribution: 0.45–2.4 L/kg; elimination half-life: 2–3 days; total body clearance: 0.79 L/kg/day.
• Pigs: volume of distribution: 4 L/kg; elimination half-life: 0.5 days.
• Sheep: bioavailability: 1 (intraabomasal), 0.25 (intraruminal); volume of distribution: 4.6 L/kg; elimination half-life: 2–7 days.

Albendazole
Albendazole is absorbed better than other benzimidazoles; however, in ruminants, absorption is lower because ruminal fluid partially degrades it, and an enterohepatic cycle (first-pass effect) occurs. In sheep, after oral administration, it is not detected in plasma due to the first-pass effect. It is known to follow four metabolic pathways: sulfoxidation, hydroxylation (which produces embryotoxic and teratogenic metabolites), acetylation, and reduction. It reaches its Cmax 20 hours after administration. It is excreted in the urine; it is estimated that 50% of the dose is excreted within the first 24 hours, and the remaining 50% over an average of 10 days. Non-ruminant animals excrete a greater proportion of the drug in their urine.

Praziquantel
Praziquantel is rapidly and completely absorbed in the intestine following oral administration. In dogs, Cmax is reached within 30–120 minutes. It is distributed to all tissues (muscle, brain, and viscera) and crosses the blood-brain barrier and the intestinal wall. It is metabolized in the liver, resulting in metabolites that are reported to have no activity. It undergoes first-pass metabolism. It is primarily excreted in the urine, and its elimination half-life is approximately three hours.

MECHANISM OF ACTION:

Ivermectin
Ivermectin promotes the release of gamma-aminobutyric acid (GABA) in presynaptic neurons. GABA acts as an inhibitory neurotransmitter and blocks postsynaptic stimulation of the adjacent neuron in nematodes or in the muscle fibers of arthropods. By stimulating the release of GABA, ivermectin causes paralysis of the parasite and its eventual death.

Albendazole
It inhibits tubulin polymerization and the enzyme fumarate reductase, which leads to a deficiency in energy (ATP) production and thus causes the death of the parasite.

Praziquantel
The exact mechanism of action of praziquantel has not been determined. At low concentrations in vitro, it appears to alter and stimulate the movement of parasites, causing tetanic contractions in their musculature, possibly due to an increase in the permeability of the cell membrane to calcium; its effect is irreversible, and it is also reported to block ATP synthesis. In the parasite, it also causes irreversible focal vacuolization, with subsequent disintegration of the tegument (of the cestodes primarily), making helminths more susceptible to attack by proteolytic enzymes; finally, only small fragments of partially digested parasites are observed.

PRECAUTIONS- WARNINGS-CONTRAINDICATIONS:

- Do not administer to puppies under 3 months of age.
- Do not administer to Collies, Old English Sheepdogs, Australian Shepherds, Shetland Sheepdogs, or their crossbreeds.
- Use the recommended route of administration and dosage.
- Do not administer to species other than those recommended.
- Keep out of the reach of children and pets.

DRUG INTERACTIONS

The effects of benzodiazepines may be potentiated by ivermectin.

ADVERSE REACTIONS

- Depression, hypothermia, vomiting, lethargy.
- Toxicity may occur at high doses and in breeds sensitive to ivermectin, as it crosses the blood-brain barrier. The toxicity is neurotoxic, and signs include hypersalivation, depression, ataxia, visual impairment, coma, and death. Sensitivity to ivermectin occurs in certain breeds due to a mutation in the multidrug resistance gene drugs (ABCB1, formerly MDR1 gene) that encode the P-glycoprotein of the membrane pump.

COMMERCIAL PRESENTATIONS

2.5-ml syringe
5-ml syringe
10-ml syringe