1. NAME OF THE VETERINARY MEDICINAL PRODUCT

Endogard Plus XL Tablets for dogs

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each tablet contains:

Active substances:

Praziquantel	175 mg
Pyrantel embonate	504 mg
Febantel	525 mg

Excipients:

Qualitative composition of excipients and other constituents
Lactose monohydrate
Maize starch
Povidone K-30
Sodium laurilsulfate
Microcrystalline cellulose (E460)
Colloidal anhydrous silica
Magnesium stearate (E572)

Oval, biconvex tablets with bevelled edges and scored on both sides. Slightly greenish-yellow.
The tablets can be divided into equal halves.

3. CLINICAL INFORMATION

3.1 Target species

Dogs weighing at least 17.5 kg bodyweight.

3.2 Indications for use for each target species

For the treatment of mixed infections with the following roundworms and tapeworms in adult dogs:
Nematodes:
Ascarids: *Toxocara canis*, *Toxascaris leonina* (late immature forms and mature forms)
Hookworms: *Uncinaria stenocephala*, *Ancylostoma caninum* (adults)
Cestodes:
Tapeworms: *Taenia* spp., *Dipylidium caninum*

3.3 Contraindications

Do not use simultaneously with piperazine compounds.
Do not use in cases of hypersensitivity to the active substance or to any of excipients.

Do not exceed the stated dosage when treating pregnant bitches.

3.4 Special warnings

Fleas serve as intermediate hosts for one common type of tapeworm – *Dipylidium caninum*. Tapeworm infestation is certain to re-occur unless control of intermediate hosts such as fleas, mice etc. is undertaken.

3.5 Special precautions for use

Special precautions for safe use in the target species:
This veterinary medicinal product is not recommended for use in dogs under 17.5 kg body weight.
Any part-used tablets should be discarded.

Special precautions to be taken by the person administering the veterinary medicinal product to animals
In the interests of good hygiene, persons administering the tablet directly to a dog or by adding it to the dog's food, should wash their hands afterwards.
In case of accidental ingestion, seek medical advice immediately and show the package leaflet or label to the physician.

Special precautions for the protection of the environment:

Not applicable.

3.6 Adverse events

Dogs:

Very rare (<1 animal / 10,000 animals treated, including isolated reports):	Vomiting, diarrhoea

Reporting adverse events is important. It allows continuous safety monitoring of a veterinary medicinal product. Reports should be sent, preferably via a veterinarian, to either the marketing authorisation holder or its local representative or the national competent authority via the national reporting system. See the package leaflet for respective contact details.

3.7 Use during pregnancy, lactation or lay

Pregnancy:

Do not use in bitches during the first two-thirds of pregnancy.
Consult a veterinary surgeon before treating pregnant animals for roundworms.

Lactation:

Can be used during lactation (see Sections 3.3 and 3.9).

3.8 Interaction with other medicinal products and other forms of interaction

Do not use simultaneously with piperazine as the anthelmintic effects of pyrantel and piperazine (used in many worming veterinary medicinal products for dogs) may be antagonised.

Concurrent use with other cholinergic compounds can lead to toxicity.

3.9 Administration routes and dosage

For oral use.

Dosage

The recommended dose rates are: 15 mg/kg bodyweight febantel, 14.4 mg/kg pyrantel and 5 mg/kg praziquantel. This is equivalent to 1 tablet per 35 kg bodyweight.

Tablets may be halved to allow accuracy of dosing.

Administration and Duration of Treatment

No restriction of access to food is required either before or after administration of the veterinary medicinal product. The tablet(s) can be given directly to the dog or disguised in food.
To ensure a correct dosage, body weight should be determined as accurately as possible.
For the control of *Toxocara*, nursing bitches should be dosed 2 weeks after giving birth and every 2 weeks until weaning.
In the event of a heavy roundworm infestation, a repeat dose should be given after 14 days.
For routine control adult dogs should be treated every 3 months.

3.10 Symptoms of overdose (and where applicable, emergency procedures and antidotes)

The veterinary medicinal product is well tolerated in dogs. In safety studies, doses of up to five times the recommended dose gave rise to occasional vomiting.

3.11 Special restrictions for use and special conditions for use, including restrictions on the use of antimicrobial and antiparasitic veterinary medicinal products in order to limit the risk of development of resistance

Not applicable.

3.12 Withdrawal period(s)

Not applicable.

4. PHARMACOLOGICAL INFORMATION

4.1 ATCvet code: QP52AC55

4.2 Pharmacodynamics

The veterinary medicinal product contains anthelmintics active against roundworms and tapeworms. The veterinary medicinal product contains three active substances: febantel, pyrantel embonate (pamoate) and praziquantel, a partially hydrogenated pyrazino-isoquinoline derivative used widely as an anthelmintic for both human and veterinary use.
Pyrantel acts as a cholinergic agonist. Its mode of action is to stimulate nicotinic cholinergic receptors of the parasite, induce spastic paralysis and thereby allow removal from the gastro-intestinal (GI) system by peristalsis.

With the mammalian system febantel undergoes ring closure forming fenbendazole and oxfendazole. It is these chemical entities which exert the anthelmintic effect by inhibition of tubulin polymerization. Formation of microtubules is thereby prevented, resulting in disruption to structures vital to the normal functioning of the helminth. Glucose uptake, in particular, is affected, leading to depletion in cell ATP. The parasite dies upon exhaustion of its energy reserves, which occurs 2 – 3 days later.
Praziquantel is very rapidly absorbed and distributed throughout the parasite. Both *in vitro* and *in vivo* studies have shown that praziquantel causes severe damage to the parasite integument, resulting in contraction and paralysis. There is an almost instantaneous tetanic contraction of the parasite musculature and a rapid vacuolisation of the syncytial tegument. This rapid contraction has been explained by changes in divalent cation fluxes, especially calcium.

In this fixed combination veterinary medicinal product pyrantel and febantel act synergistically against all relevant nematodes in dogs. In particular, the activity spectrum covers *Toxocara canis*, *Toxascaris leonina*, *Uncinaria stenocephala* and *Ancylostoma caninum*. The spectrum of activity of praziquntel covers also cestode species in dogs, in particular all *Taenia* spp. and *Dipylidium caninum*. Praziquantel acts against adult and immature forms of these parasites.

4.2 Pharmacokinetics

Perorally administered praziquantel is absorbed almost completely from the intestinal tract. After absorption, the drug is distributed to all organs. Praziquantel is metabolized into inactive forms in the liver and secreted in bile. It is excreted within 24 hours to more than 95% of the administered dosage. Only traces of non-metabolised praziquantel is excreted.

The pamoate salt of pyrantel has low aqueous solubility, an attribute that reduces absorption from the gut and allows the drug to reach and be effective against parasites in the large intestine. Because of the low systemic absorption of pyrantel pamoate, there is very little danger of adverse reactions/toxicity in the host. Following absorption, pyrantel pamoate is quickly and almost completely metabolized into inactive metabolites that are excreted rapidly in the urine.

Febantel is absorbed relatively rapidly and metabolized to a number of metabolites including fenbendazole and oxfendazole, which have anthelmintic activity.

5. PHARMACEUTICAL PARTICULARS

5.1 Major incompatibilities

None known.

5.2 Shelf life

Shelf-life of the veterinary medicinal product as packaged for sale: 3 years.

5.3. Special precautions for storage

This veterinary medicinal product does not require any special storage conditions.

5.4 Nature and composition of immediate packaging

Print and perforated Alu-Alu blister: 2 tablets (1 blister with 2 tablets), in a box.
Print and perforated Alu-Alu blister: 4 tablets (2 blisters with 2 tablets), in a box.

Print and perforated Alu-Alu blister: 10 tablets (1 blister with 10 tablets), in a box.
Print and perforated Alu-Alu blister: 12 tablets (2 blisters with 6 tablets), in a box.
Print and perforated Alu-Alu blister: 24 tablets (4 blisters with 6 tablets), in a box.
Print and perforated Alu-Alu blister: 30 tablets (3 blisters with 10 tablets or 5 blisters with 6 tablets), in a box.
Print and perforated Alu-Alu blister: 50 tablets (5 blisters with 10 tablets), in a box.
Print and perforated Alu-Alu blister: 60 tablets (10 blisters with 6 tablets or 6 blisters with 10 tablets), in a box.
Print and perforated Alu-Alu blister: 100 tablets (10 blisters with 10 tablets), in a box.
Print and perforated Alu-Alu blister: 102 tablets (17 blisters with 6 tablets), in a box.
Not all pack sizes may be marketed.

5.5 Special precautions for the disposal of unused veterinary medicinal products or waste materials derived from the use of such products

Medicines should not be disposed of via wastewater or household waste.

Use take-back schemes for the disposal of any unused veterinary medicinal product or waste materials derived thereof in accordance with local requirements and with any national collection systems applicable to the veterinary medicinal product concerned.

6. NAME OF THE MARKETING AUTHORISATION HOLDER

KRKA, d.d., Novo mesto

7. MARKETING AUTHORISATION NUMBER

VPA10774/004/002

8. DATE OF FIRST AUTHORISATION

03/06/2011

9. DATE OF REVISION OF THE TEXT

24/09/2024

10. CLASSIFICATION OF VETERINARY MEDICINAL PRODUCTS

Veterinary medicinal product not subject to prescription.

Detailed information on this veterinary medicinal product is available in the Union Product Database (https://medicines.health.europa.eu/veterinary).