

**INTERCEPTOR™**  
PLUS  
(milbemycin oxime/praziquantel)

**Caution**

Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian.

**Before using this product, please consult the product insert, a summary of which follows:**

**Indications**

INTERCEPTOR PLUS is indicated for the prevention of heartworm disease caused by *Dirofilaria immitis*, and for the treatment and control of adult roundworm (*Toxocara canis*, *Toxascaris leonina*), adult hookworm (*Ancylostoma caninum*), adult whipworm (*Trichuris vulpis*), and adult tapeworm (*Taenia pisiformis*, *Echinococcus multilocularis* and *Echinococcus granulosus*) infections in dogs and puppies two pounds of body weight or greater and six weeks of age and older.

**Dosage and Administration**

INTERCEPTOR PLUS should be administered orally, once every month, at the minimum dosage of 0.23 mg/lb (0.5 mg/kg) milbemycin oxime, and 2.28 mg/lb (5 mg/kg) praziquantel. For heartworm prevention, give once monthly for at least 6 months after exposure to mosquitoes (see **EFFECTIVENESS**).

**See product insert for complete dosing and administration information.**

**Contraindications**

There are no known contraindications to the use of INTERCEPTOR PLUS.

**Warnings**

Not for use in humans. Keep this and all drugs out of the reach of children.

**Precautions**

Treatment with fewer than 6 monthly doses after the last exposure to mosquitoes may not provide complete heartworm prevention (see **EFFECTIVENESS**).

Prior to administration of INTERCEPTOR PLUS, dogs should be tested for existing heartworm infections. At the discretion of the veterinarian, infected dogs should be treated to remove adult heartworms. INTERCEPTOR PLUS is not effective against adult *D. immitis*.

Mild, transient hypersensitivity reactions, such as labored breathing, vomiting, hypersalivation, and lethargy, have been noted in some dogs treated with milbemycin oxime carrying a high number of circulating microfilariae. These reactions are presumably caused by release of protein from dead or dying microfilariae.

Do not use in puppies less than six weeks of age.

Do not use in dogs or puppies less than two pounds of body weight.

The safety of INTERCEPTOR PLUS has not been evaluated in dogs used for breeding or in lactating females. Studies have been performed with milbemycin oxime alone.

**Adverse Reactions**

The following adverse reactions have been reported in dogs after administration of milbemycin oxime or praziquantel: vomiting, diarrhea, depression/lethargy, ataxia, anorexia, convulsions, weakness, and salivation.

To report suspected adverse drug events, contact Elanco US Inc. at 1-888-545-5973 or the FDA at 1-888-FDA-VETS.

For technical assistance call Elanco US Inc. at 1-888-545-5973.

**Information for Owner or Person Treating Animal:**

*Echinococcus multilocularis* and *Echinococcus granulosus* are tapeworms found in wild canids and domestic dogs. *E. multilocularis* and *E. granulosus* can infect humans and cause serious disease (alveolar hydatid disease and hydatid disease, respectively). Owners of dogs living in areas where *E. multilocularis* or *E. granulosus* are endemic should be instructed on how to minimize their risk of exposure to these parasites, as well as their dog's risk of exposure. Although INTERCEPTOR PLUS was 100% effective in laboratory studies in dogs against *E. multilocularis* and *E. granulosus*, no studies have been conducted to show that the use of this product will decrease the incidence of alveolar hydatid disease or hydatid disease in humans. Because the prepatent period for *E. multilocularis* may be as short as 26 days, dogs treated at the labeled monthly intervals may become reinfected and shed eggs between treatments.

**Effectiveness****Heartworm Prevention:**

In a well-controlled laboratory study, INTERCEPTOR PLUS was 100% effective against induced heartworm infections when administered once monthly for 6 consecutive months. In well-controlled laboratory studies, neither one dose nor two consecutive doses of INTERCEPTOR PLUS provided 100% effectiveness against induced heartworm infections.

**Intestinal Nematodes and Cestodes Treatment and Control:**

Elimination of the adult stage of hookworm (*Ancylostoma caninum*), roundworm (*Toxocara canis*, *Toxascaris leonina*), whipworm (*Trichuris vulpis*) and tapeworm (*Echinococcus multilocularis*, *Echinococcus granulosus*, *Taenia pisiformis*) infections in dogs was demonstrated in well-controlled laboratory studies.

**Palatability**

In a field study of 115 dogs offered INTERCEPTOR PLUS, 108 dogs (94.0%) accepted the product when offered from the hand as if a treat, 1 dog (0.9%) accepted it from the bowl with food, 2 dogs (1.7%) accepted it when it was placed in the dog's mouth, and 4 dogs (3.5%) refused it.

**Storage Information**

Store at room temperature, between 59° and 77°F (15-25°C).

**How Supplied**

INTERCEPTOR PLUS is available in four strengths, formulated according to the weight of the dog. Each strength is available in color-coded packages of six chewable tablets each. The tablets containing 2.3 mg milbemycin oxime/2.28 mg praziquantel or 5.75 mg milbemycin oxime/5.7 mg praziquantel are also available in color coded packages of one chewable tablet each.

Manufactured for: Elanco US Inc.  
Greenfield, IN 46140, USA  
Product of Japan

NADA #141-338, Approved by FDA

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**Elanco**

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# Antibiotic-Resistant *Escherichia coli* in Pet Birds

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Yilmaz EŞ, Dolar A. Detection of extended-spectrum  $\beta$ -lactamases in *Escherichia coli* from cage birds. *J Exotic Pet Med.* 2017;26(1):13-18.

## FROM THE PAGE ...

Extended-spectrum  $\beta$ -lactamase (ESBL)-producing *Escherichia coli* or other Enterobacteriaceae are a globally emerging public health problem.<sup>1</sup> Because many humans closely interact with animals regularly, there is opportunity for these bacteria to cross species.

This study sought to determine prevalence and characteristics of ESBL-producing *E coli* in cage birds in pet stores. Fecal samples were collected from birds that were for sale in 15 different pet stores in Hatay, Turkey, and cultured; *E coli* was identified and was confirmed via PCR. Additional testing was performed on the samples to determine antibiotic susceptibility as well as for further classification with DNA sequencing and pulsed-field gel electrophoresis.

Fecal samples were collected from 148 birds, the majority from 3 species: canaries and hybrids (*Serinus canaria*,  $n = 44$ ), parakeets (*Melopsittacus undulatus*,  $n = 34$ ), and zebra finches (*Taeniopygia guttata*,  $n = 33$ ). The remaining 37 samples were split among 13 other avian species. Only 4 of the 148 sample isolates contained ESBL-producing *E coli*. These samples came from *M undulatus* ( $n = 3$ ) and *T guttata* ( $n = 1$ ). The isolates were susceptible to gentamicin, imipenem, cefotetan, amikacin, cefoxitin, and tobramycin. Various rates of resistance to commonly used antibiotics such as ampicillin, amoxicillin-clavulanic acid, ciprofloxacin, and tetracycline were found.

Although these birds showed no overt signs of illness associated with *E coli* infection, transmission of the organism to caretakers is possible. This was the first

study to examine carriage of antibiotic resistant *E coli* in birds commonly kept as pets. The prevalence of infection was relatively low, but this could be in part due to the limited samples collected from many of the species included in the study. Regardless, isolating ESBL-producing *E coli* warrants precautions to reduce the likelihood of humans contracting disease. As with all organisms transmitted through the fecal-oral route, basic precautions (eg, handwashing, enclosure cleaning, disinfection) can greatly reduce the likelihood of exposure and infection to caretakers.

### ... TO YOUR PATIENTS

Key pearls to put into practice:

- 1** Clients and team members should be advised to practice good hygiene, especially diligent handwashing, to avoid exposure to potentially antibiotic-resistant bacteria from animals.
- 2** Regular cleaning and disinfection of animal enclosures will reduce the buildup of organic material that might harbor infectious agents.
- 3** Proper selection of antibiotics based on culture and susceptibility testing is strongly advised to avoid inappropriate or unnecessary use.

### Reference

1. Yilmaz EŞ, Dolar A. Detection of extended-spectrum  $\beta$ -lactamases in *Escherichia coli* from cage birds. *J Exotic Pet Med.* 2017;26(1):13-18.

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