NexGard® (afoxolaner) is available in four sizes of beef-flavored, soft chewables for oral administration to dogs and puppies according to their weight. Each chewable is formulated to provide a minimum afoxolaner dosage of 1.14 mg/lb (2.5 mg/kg). Afoxolaner has the chemical composition 1-Naphthalenecarboxamide, 4-[5-[3-chloro-5-(trifluoromethyl)-phenyl]-4,5-dihydro-5-[trifluoromethyl]-3-isoxazolyl]-N-[2-oxo-2-[(2,2,2-trifluoroethyl)amino]ethyl. 

Indications: NexGard kills adult fleas and is indicated for the treatment and prevention of flea infestations (Ctenocephalides felis) and the treatment and control of Black-legged tick (Ixodes scapularis), American Dog tick (Dermacentor variabilis), Lone Star tick (Amblyomma americanum), and Brown dog tick (Rhipicephalus sanguineus) infestations in dogs and puppies 8 weeks of age and older, weighing 4 pounds of body weight or greater, for one month. NexGard is indicated for the prevention of Borelia burgdorferi infections as a direct result of killing ixodes spindalis vector.

Dosage and Administration: NexGard is given orally once a month, at the minimum dosage of 1.14 mg/lb (2.5 mg/kg).

Dosing Schedule:

<table>
<thead>
<tr>
<th>Body Weight</th>
<th>Afoxolaner Per Chewable (mg)</th>
<th>Chews Administered</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 to 10 lbs</td>
<td>11.3</td>
<td>One</td>
</tr>
<tr>
<td>11 to 20 lbs</td>
<td>26.3</td>
<td>One</td>
</tr>
<tr>
<td>21 to 40 lbs</td>
<td>68</td>
<td>One</td>
</tr>
<tr>
<td>41.1 to 75 lbs</td>
<td>136</td>
<td>One</td>
</tr>
</tbody>
</table>

NexGard can be administered with or without food. Care should be taken that the dog consumes the complete dose, and treated animals should be observed for a few minutes to ensure that part of the dose is not lost or refused. If it is suspected that any dose of the product has been lost or vomited, occurs within two hours of administration, redose with another full dose. If a dose is missed, administer NexGard and resume a monthly dosing schedule.

To minimize the likelihood of flea reinfestation, it is important to treat all animals within a household with an approved flea control product.

Flea Treatment and Prevention: Treatment with NexGard may begin at any time of the year. In areas where fleas are common year-round, monthly treatment with NexGard should continue the entire year without interruption.

Tick Treatment and Control: Treatment with NexGard may begin at any time of the year (see Effectiveness).

Contraindications: There are no known contraindications for the use of NexGard.

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

Precautions: Afoxolaner is a member of the isoxazoline class. This class has been associated with neurologic adverse reactions including tremors, ataxia, and seizures. Seizures have been reported in dogs receiving isoxazoline class drugs, even in dogs without a history of seizures. Use with caution in dogs with a history of seizures or neurologic disorders.

The safe use of NexGard in breeding, pregnant or lactating dogs has not been evaluated.

Adverse Reactions: In a well-controlled US field study, which included a total of 333 households and 615 treated dogs (413 administered afoxolaner, 200 administered active control), no serious adverse reactions were observed with NexGard. Over the 30-day study period, all observations of potential adverse reactions were recorded. The most frequent reactions reported at an incidence of >1% within any of the three months of observations are presented in the following table. The most frequently reported adverse reaction was vomiting. The occurrence of vomiting was generally self-limiting and of short duration and tended to decrease with subsequent doses in both groups. Five treated dogs experienced anorexia during the study, and two of those dogs experienced anorexia with the first dose but not subsequent doses.

Table 1: Dogs With Adverse Reactions.

<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>Afoxolaner</th>
<th>Oral active control</th>
</tr>
</thead>
<tbody>
<tr>
<td>N  % (n=415)</td>
<td>N  % (n=200)</td>
<td></td>
</tr>
<tr>
<td>Vomiting (with and without blood)</td>
<td>17  4.1  25  12.5</td>
<td></td>
</tr>
<tr>
<td>Dry Furry Skin</td>
<td>13  3.1  12  6.0</td>
<td></td>
</tr>
<tr>
<td>Diarrhea (with and without blood)</td>
<td>13  3.1  7  3.5</td>
<td></td>
</tr>
<tr>
<td>Lethargy</td>
<td>7  1.7  4  2.0</td>
<td></td>
</tr>
<tr>
<td>Anorexia</td>
<td>5  1.2  9  4.5</td>
<td></td>
</tr>
</tbody>
</table>

1 Number of dogs in the afoxolaner treatment group with the identified abnormality.
2 Number of dogs in the control group with the identified abnormality.

In the US field study, one dog with a history of seizures experienced a seizure on the same day after receiving the first dose and on the same day after receiving the second dose of NexGard. This dog experienced a third seizure one week after receiving the third dose. The dog remained enrolled and completed the study. Another dog with a history of seizures had a seizure 19 days after the third dose of NexGard. The dog remained enrolled and completed the study. A third dog with a history of seizures received NexGard and experienced no seizures throughout the study.

Post-Approval Experience (July 2018): The following adverse events are based on post-approval drug experience reporting. Not all adverse events are reported to FDA/CVM. It is not always possible to reliably estimate the adverse event frequency or establish a causal relationship to product exposure using these data. The following adverse events reported for dogs are listed in decreasing order of reporting frequency:

- Vomiting, anorexia, tremors, ataxia, seizures.
- Lethargy, panting, diarrhea, incoordination.
- Eosinophilia, leukocytosis, lymphopenia.
- Transient hyperthermia, hypothermia.
- Hypersensitivity reactions, including pruritus, urticaria, erythema, rash, and urticarial vasculitis.

Contact Information: For a copy of the Safety Data Sheet (SDS) or to report suspected adverse drug events, contact Boehringer Ingelheim Animal Health USA Inc. at 1-888-637-4251 or www.nexgardthegoods.com.

For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or www.fda.gov/reportanimalae.

Mode of Action: Afoxolaner is a member of the isoxazoline family, known to bind at a binding site to inhibit insect and acarine ligand-gated chloride channels, in particular those gated by the neurotransmitter gamma-aminobutyric acid (GABA), thereby blocking pre- and post-synaptic transfer of chloride ions across cell membranes. Prolonged afoxolaner-induced hyperexcitation results in uncontrolled activity of the central nervous system and death of insects and acarines. The selective toxicity of afoxolaner between insects and acarines and mammals may be inferred by the differential sensitivity of the insects and acarines’ GABA receptors versus mammalian GABA receptors.

Effectiveness: In a well-controlled laboratory study, NexGard began to kill fleas four hours after initial administration and demonstrated >99% effectiveness at eight hours. In a separate well-controlled laboratory study, NexGard demonstrated 100% effectiveness against adult fleas 24 hours post-infestation for 35 days, and was >93% effective at 12 hours post-infestation through Day 21, and on Day 35. In Day 28, NexGard was 81.1% effective 12 hours post-infestation. Dogs in both the treated and control groups that were infested with fleas on Day 1 generated flea eggs at 12- and 24-hours post-treatment (0-11 eggs and 1-17 eggs in the NexGard treated dogs, and 4-90 eggs and 0-118 eggs in the control dogs, at 12- and 24-hours, respectively). At subsequent evaluations post-infestation, fleas from dogs in the treated group were essentially unable to produce any eggs (0-1 eggs) while fleas from dogs in the control group continued to produce eggs (1-141 eggs).

In a 90-day US field study conducted in households with existing flea infestations of varying severity, the effectiveness of NexGard against fleas on Day 30, 60 and 90 visits compared with baseline was 86.0%, 97.7%, and 98.9%, respectively.

Collectively, the data from the three studies (two laboratory and one field) demonstrate that NexGard kills fleas before they can lay eggs, thus preventing subsequent flea infestations after the start of treatment of existing flea infestations.

In well-controlled laboratory studies, NexGard demonstrated >97% effectiveness against Demodex mites, 94% effectiveness against Ixodes scapularis, and >93% effectiveness against Rhipicephalus sanguineus, 48 hours post-infestation for 30 days. At 72 hours post-infection, NexGard demonstrated >87% effectiveness against Amblyomma americanum for 30 days. In two separate, well-controlled laboratory studies, NexGard was effective at preventing Borrelia burgdorferi infections after dogs were infested with Ixodes scapularis vector ticks 28 days post-treatment.

Animal Safety: In a margin of safety study, NexGard was administered orally to 8 to 9-week-old Beagle puppies at 1, 3, and 5 times the maximum exposure dose (6.3 mg/kg) for three treatments every 28 days, followed by three treatments every 14 days, for a total of six treatments. Dogs in the control group were sham-dosed. There were no clinically-relevant effects related to treatment on physical examination, body weight, food consumption, clinical pathology (hematology, clinical chemistries, or coagulation tests), gross pathology, histopathology or organ weights. Vomiting occurred throughout the study, with a similar incidence in the treated and control groups, including one dog in the 5x group that vomited four hours after treatment.

In a well-controlled field study, NexGard was used concomitantly with other medications, such as vaccines, anthelmintics, antibiotics (including topicalis), steroids, NSAIDS, aesthetics, and antihistamines. No adverse reactions were observed from the concomitant use of NexGard with other medications.

Storage Information: Store at or below 30°C (86°F) with excursions permitted up to 40°C (104°F).

How Supplied: NexGard is available in four sizes of beef-flavored soft chewables: 11.3, 28.3, 68, or 136 mg afoxolaner. Each chewable size is available in color-coded packages of 1, 3, or 6 beef-flavored chewables.

Approved by FDA under NADA # 1-411-406

Marketed by: Frontline Vet Labs™, a Division of Boehringer Ingelheim Animal Health USA Inc. Duluth, GA 30096

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