

# NEXGARD® COMBO IS NOW APPROVED FOR THE PREVENTION OF AELUROSTRONGYLOSIS AND TREATMENT AGAINST AELUROSTRONGYLUS

### A WIDESPREAD THREAT 1-8

#### A. abstrusus

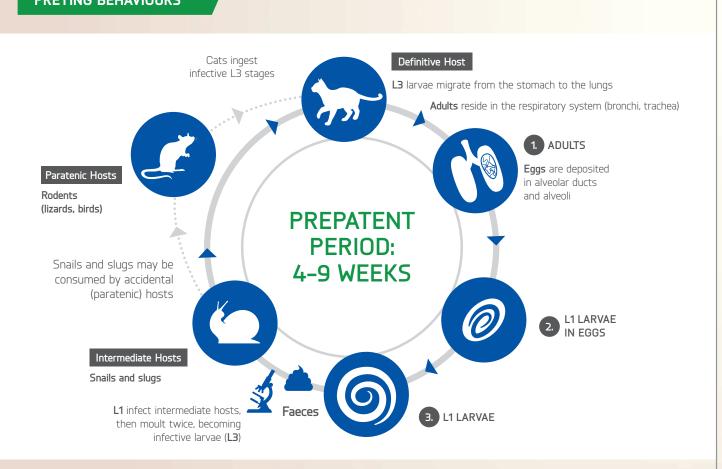
The most common species of cat lungworm found around the world and the most prevalent pulmonary parasite of pet cats in Europe.

Variable prevalence rates are described, e.g., from 0.8% in Switzerland to 35.8% in Bulgaria.<sup>2</sup>



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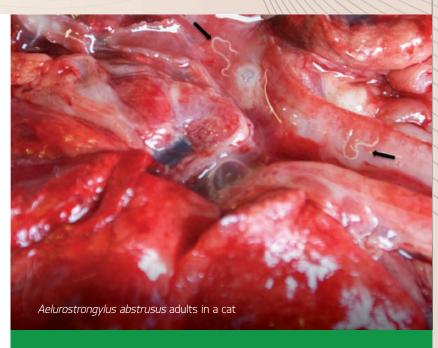
## A LIFE CYCLE LINKED TO PREYING BEHAVIOURS



### AN UNDERESTIMATED DISEASE 8-9

Adult *Aelurostrongylus abstrusus* lungworms infect the cat's bronchioles and alveolar ducts, but may remain undiagnosed.

- Cats with a small number of worms can appear asymptomatic or subclinical.
- Cats harbouring a heavy burden of adult worms, eggs and larvae can exhibit pneumonia with respiratory distress, and/or coughing, tachypnea, dyspnea, nasal discharge and sneezing.
- Clinical signs of a lungworm infection can be mistaken for bronchial disease or asthma.



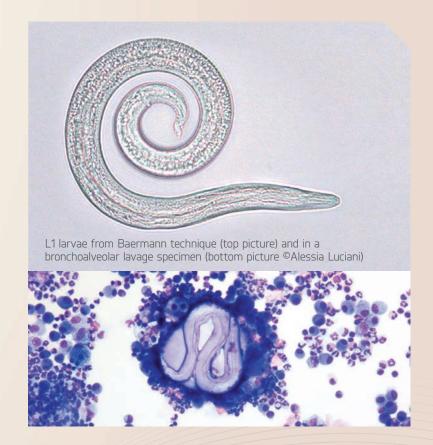
Any respiratory sign in an at-risk cat should ring an alarm bell for clinicians working in lungworm-endemic areas or with travelling pets. 8

### A CHALLENGING DIAGNOSIS 8-9

On top of clinical suspicion, diagnosis of *Aelurostrongylus abstrusus* infection relies on specific parasite testing.

The most effective way of diagnosing a lungworm infection is through the Baermann technique, counting larvae found in the faeces, but parasites may be missed due to prepatent period and intermittent larval shedding.

Examining the mucus collected from the trachea or through bronchoalveolar wash may help, but is not an easy diagnostic method.



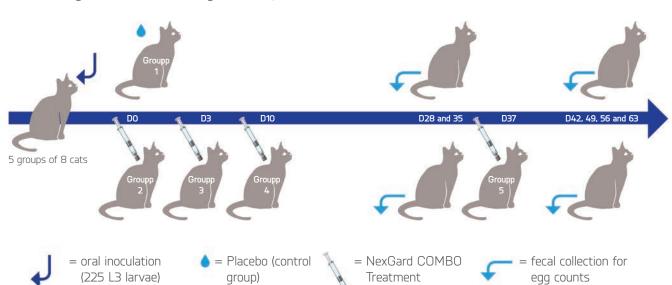
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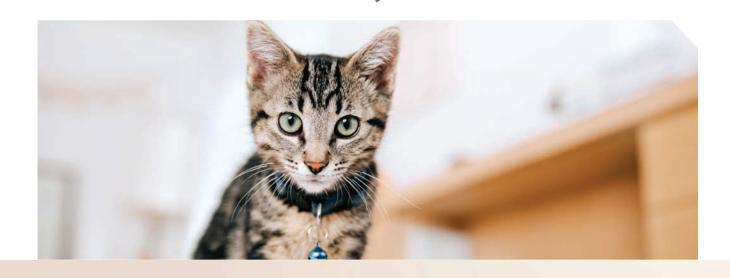
# BREATHE EASY: NEXGARD® COMBO IS HIGHLY EFFECTIVE AGAINST L3, L4 LARVAE, IMMATURE ADULT, AND ADULT AELUROSTRONGYLUS ABSTRUSUS.¹0

### THE STUDY

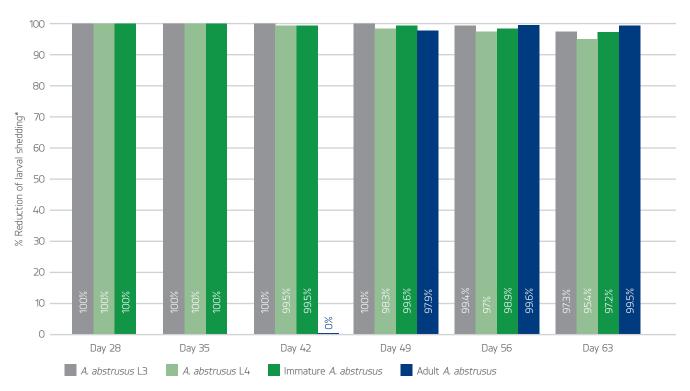
5 groups of 8 cats were artificially infected orally with approximately 225 infective L3 larvae of *Aelurostrongylus abstrusus* prior to being treated with a placebo (mineral oil) or NexGard® COMBO. Treated Groups were dosed at different time points each, to target the successive stages of the parasite.

After treatment, faecal samples were collected from all cats on D+28, D+35, D+42, D+49, D+56 and D+63, and examined using the Baermann–Wetzel funnel method to assess the efficacy through the reduction in larval shedding.





### NexGard® COMBO efficacy against all stages of A. abstrusus



### A. abstrusus L3

- Group 2 treated on DO targeting L3
- Reduction of larval shedding based on geometric mean was 100% up to D+49 and declined to 97.3% on D+63

### A. abstrusus L4

- Group 3 treated on D+3 targeting L4 larvae
- Reduction of larval shedding was 100% up to D+35 and decreased to 95.4% on D+63
- \*Adequacy of infection confirmed if more than one L1 larva was found in the faecal sample of at least six cats in Group 1, the control group.

#### Immature *A. abstrusus*

- Group 4 treated on D+10 targeting immature adults
- Reduction of larval shedding was 100% up to D+35 and declined to 97.2% on D+63

### Adult *A. abstrusus*

- Group 5 treated on D+37, targeting adult lungworms
- No reduction of larval shedding was found on D+ 42,
   5 days after treatment
- 97.9% efficacy was calculated on D+49, 99.6% on D+56 and 99.5% at the end of the study period (D+63)

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# NEXGARD® COMBO IS NOW APPROVED AGAINST NOTOEDRIC MANGE (Notoedres cati)<sup>11</sup>

- 14 European Shorthair cats confirmed with natural or induced Notoedres cati infestation and signs of notoedric mange
- Treated on Day O with NexGard® COMBO at the minimum recommended dose, or with mineral oil (placebo group).
- Examined every 2 weeks for 8 weeks to evaluate the antiparasitic efficacy and the clinical success through:
  - deep skin scrapings for live N. cati mites,
  - scoring of the mange lesions and clinical signs.



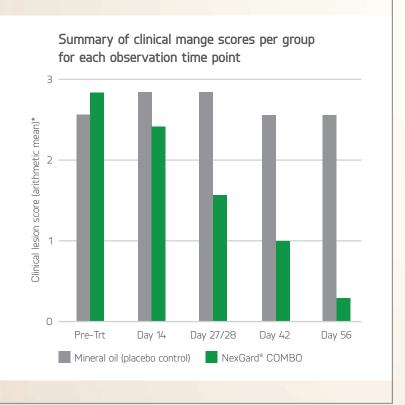
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### THE PROVEN WAY TO TREAT MANGE:

# A single dose of NexGard® COMBO delivered 100% efficacy against *Notoedres cati* mites at all time points

The rapid effect of NexGard® COMBO was also associated with a substantial improvement of clinical signs of notoedric mange (clinical signs remained unchanged in the control group).

\*Severity of clinical mange was assessed using a scale from 0 to 4 in which "0" indicated no lesions or signs, and "4" indicated severe lesions or signs. Parameters assessed included pruritus, alopecia, and skin crusts, thickening and exudate.



# NEXGARD® COMBO IS NOW APPROVED FOR USE IN BREEDING FEMALES

In the specific study<sup>12</sup> conducted, queens were administered NexGard® COMBO at 1X or 3X the maximum exposure dose at multiple time points:

- prior to mating,
- during pregnancy,
- through the weaning of their offspring.

The total number of administrations varied from 6 to 8 in the 1X group and 6 to 9 in the 3X group, to target the relevant sensitive periods of breeding.

NexGard® COMBO administered monthly to breeding female cats at up to 3 times the maximum exposure dose, repeatedly during reproduction and lactation, did not have any impact on breeding parameters and did not cause significant adverse reactions in females and kittens.



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### PARASITE PROTECTION FOR CATS IS **NOW EVEN MORE COMPLETE!**



## **ECTOPARASITES**

### TREATMENT OF INFESTATIONS BY

Notoedres cati (Notoedric mange)



Ctenocephalides felis (preventing flea egg laying)





Ixodes ricinus Ixodes scapularis



Otodectes cynotis



For cats with, or at risk for mixed infections by cestodes, nematodes and ectoparasites. NexGard® COMBO is exclusively indicated when all three groups are targeted at the same time.

## **ENDOPARASITES**

### TREATMENT OF INFECTIONS BY



Aelurostrongylus abstrusus L3, L4 + adults Troglostrongylus brevior L4 + adults



Toxocara cati L3-L4 + adults Toxascaris leonina



Ancylostoma tubaeforme L4 + adults Ancylostoma ceylanicum L4 + adults Ancylostoma braziliense



Dipylidium caninum Taenia taeniaeformis Joyeuxiella pasqualei, Joyeuxiella fuhrmanni



Echinococcus multilocularis



Capillaria plica

### PREVENTION OF



Heartworm disease (Dirofilaria immitis)



Aelurostrongylosis (Aelurostrongylus abstrusus)

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## THE NEXGARD® FOR CATS





One-and-done



From 8 weeks and 0.8 kg



Exclusive combination of esafoxolaner, eprinomectin and praziquantel



Easy-to-use



Broadest spectrum including tapeworms and lungworms



Advanced protection



Systemic action



From Boehringer Ingelheim



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- <sup>2</sup> Gianelli A, et al. Lungworms and gastrointestinal parasites of domestic cats: a European perspective. *International Journal for Parasitology* 2017:47:517-528.
- Penagos-Tabares F, et al. Angiostrongylus vasorum and Aelurostrongylus abstrusus: neglected and underestimated parasites in South America. Parasites&Vectors. 2018; 27;11(1):208.
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- <sup>5</sup> Yasur-Landau D, et al. First molecular identification of *Aelurostrongylus abstrusus* in a cat presenting severe respiratory disease from Israel. *Veterinary Parasitology: Regional Studies and Reports* 2019;17:100304.
- <sup>6</sup> Hansen AP, et al, Occurrence and clinical significance of *Aelurostrongylus abstrusus* and other endoparasites in Danish cats. *Veterinary Parasitology* 2017;234:31-39.
- <sup>7</sup> Elsheikha MH, et al. Prevalence of feline lungworm *Aelurostrongylus abstrusus* in England. *Veterinary Parasitology: Regional Studies and Reports* 2019;16:100271.
- <sup>8</sup> Traversa D, Di Cesare A. Diagnosis and management of lungworm infections in cats: Cornerstones, dilemmas and new avenues. *Journal of Feline Medicine and Surgery 2016;18:7-20.*
- <sup>9</sup> Traversa D, Guglielmini C. Feline aelurostrongylosis and canine angiostrongylosis: a challenging diagnosis for two emerging verminous pneumonia infections. *Veterinary Parasitology* 2008;7;157(3-4):163-74.
- <sup>10</sup> CVMP assessment report for a type II variation for NexGard Combo (EMEA/V/C/005094/II/0002/G) EMA/576364/2021.
- 11 Knaus M, et al. Efficacy of a novel topical combination of esafoxolaner, eprinomectin and praziquantel against *Notoedres cati* mange in cats.

  Parasite. 2021:28:27
- <sup>12</sup> Tielemans E, et al. Safety evaluation of a novel topical combination of esafoxolaner, eprinomectin and praziquantel, in reproducing female cats. *Parasite* 2021;28:20.

**NexGard® Combo spot-on solution for cats** < 2.5 kg and cats 2.5-7.5 kg. Active Substance: Cats 0.8-<2.5 kg (volume of unit dose 0.3 ml): Esafoxolaner 3.60 mg, Eprinomectin 1.20 mg, Praziquantel 24.9 mg. Cats 2.5-<7.5 kg (volume of unit dose 0.9 ml): Esafoxolaner 10.80 mg, Eprinomectin 3.60 mg, Praziquantel 74.70 mg. Indications: For cats with, or at risk from mixed infections by cestodes, nematodes and ectoparasites. The veterinary medicinal product is exclusively indicated when all three groups are targeted at the same time. Treatment of infestations by fleas (Ctenocephalides felis). One treatment provides immediate and persistent flea killing activity for one month. The product can be used as part of a treatment strategy for the control of flea allergy dermatitis (FAD). Treatment of infestations by ticks. One treatment provides immediate and persistent tick killing activity against Ixodes scapularis for one month and against Ixodes ricinus for five weeks. Treatment of infestations by ear mites (Otodectes cynotis). Treatment of Notoedric mange (caused by Notoedres cati). Treatment of infections with tapeworms (Dipylidium caninum, Taenia taeniaeformis, Echinococcus multilocularis, Joyeuxiella pasqualei and Joyeuxiella fuhrmanni). Treatment of infections with gastrointestinal nematodes (L3, L4 larvae and adults of Toxocara cati, L4 larvae and adults of Ancylostoma tubaeforme and Ancylostoma ceylanicum, and adult forms of Toxascaris leonina and Ancylostoma braziliense). Prevention of heartworm disease (Dirofilaria immitis) for one month. Treatment of infections with feline lungworms (L4 larvae and adults of *Troglostrongylus brevior*, L3, L4 larvae and adults of *Aelurostrongylus abstrusus*). Prevention of aelurostrongylosis (by reduction of the level of infection with L3, L4 larvae of *Aelurostrongylus abstrusus*). Treatment of infections with vesical worms (*Capillaria plica*). Contraindications: Do not use in cases of hypersensitivity to the active substances or to any of the excipients. Special warnings for each target species: special attention should be paid to long hair breeds in order to ensure that the product is applied directly to the skin and not on the hair, as this could lead to a lower bioavailability of the active substance. Ticks and fleas need to start feeding on the cat to become exposed to esafoxolaner, therefore, the risk of transmission of arthropod borne diseases cannot be excluded. Adverse reactions (frequency and seriousness): Hypersalivation, diarrhoea, transient skin reactions at the application site (alopecia, pruritus), anorexia, lethargy and emesis were uncommonly observed in clini trials shortly after administration. They are mostly mild reactions, of short duration and self-limiting. Use during pregnancy, lactation or lay: Can be used in breeding, pregnant and lactating queens. In breeding males, use only according to the benefit-risk assessment by the prescribing veterinarian. **Administration:** For the treatment of infestations with fleas and/or ticks and/or ear mites, and the concurrent treatment of gastrointestinal and/or pulmonary, and/or vesical nematodes, and cestodes, a single dose of the product should be applied. The need for and frequency of re-treatment(s) should be in accordance with the advice of the prescribing veterinarian and should take into account the local epidemiological situation and the animal's lifestyle (e.g. outdoors access). For more information about side effects, precautions, warnings and contraindications please refer to the product packaging and package leaflet; Date of information: 01/2022



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