

Research Note: Multidrug-Resistant Canine Hookworms

Hookworms are the most significant soil-transmitted nematodes in humans, causing debilitating iron-deficiency anemia, which can become fatal in children, pregnant women, and the elderly. This study identified a naturally occurring, multidrug-resistant strain of the canine hookworm *Ancylostoma caninum*, which harbors a fixed, single-base pair mutation at amino acid 167 of the β -tubulin isotype 1 gene; the isolate was resistant to fenbendazole. The mutation was introduced into the corresponding amino acid in the nematode *Caenorhabditis elegans* and was found to confer similar resistance to thiabendazole and ivermectin. This study highlights the importance of understanding mechanisms of resistance for the design of parasite-control strategies.

Source

Kitchen S, Ratnappan R, Han S, et al. Isolation and characterization of a naturally occurring multidrug-resistant strain of the canine hookworm, *Ancylostoma caninum*. *Int J Parasitol*. 2019;49(5):397-406.



A LIFETIME OF SNUGGLES.

INTRODUCING



Selarid™ (selamectin)

Now there's an easy and cost-effective way to keep pets protected against flea infestations, heartworm disease and more. Selarid™ (selamectin) Topical Parasiticide from Norbrook® is a monthly treatment for cats and dogs that offers parasite control comparable to the pioneer Revolution® Topical Solution. And with its affordable price, cost is no longer a barrier to year-round patient protection, improved clinic profits and client peace of mind.

For more information and availability,
call 888-705-0408 or visit Norbrook.com.

IMPORTANT SAFETY INFORMATION: Do not use SELARID on sick, weak or underweight cats and dogs. Use only on cats 8 weeks and older and on dogs 6 weeks and older. Prior to administration, dogs should be tested for heartworms. Side Effects may include digestive upset and temporary hair loss at application site with possible inflammation. In people, SELARID may be irritating to skin and eyes. Wash hands after use. See Brief Summary for full Prescribing Information.

The Norbrook logo is a registered trademark and Selarid is a trademark of Norbrook Laboratories Limited. Revolution is a registered trademark of Zoetis, Inc.0120-663-101K