

BRAVECTO
QUANTUM™

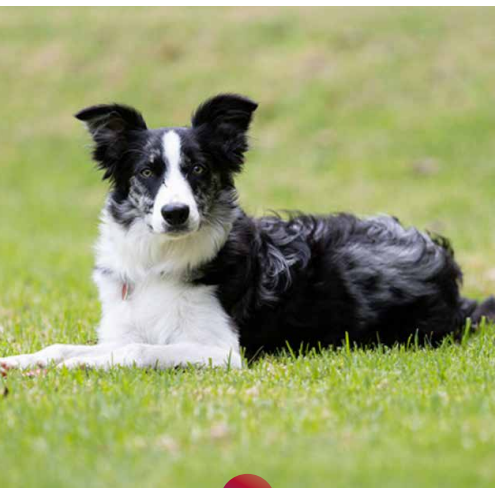
YEAR-LONG FLEA AND PARALYSIS TICK PROTECTION WITH JUST ONE INJECTION



The first and only
veterinary administered
flea and paralysis tick
injection that provides
year-long protection

TAKE COMPLIANCE INTO YOUR OWN HANDS

Solve the problem of inconsistent coverage, right in the consult room.



Fleas and ticks disrupt your canine patients' lives and threaten their health.^{1,2}



That's why guidelines from many veterinary parasitology experts recommend year-long protection since it is impossible to predict every exposure to fleas and ticks.¹⁻³



Unfortunately, monthly treatments have relatively low compliance rates.^{4,5}

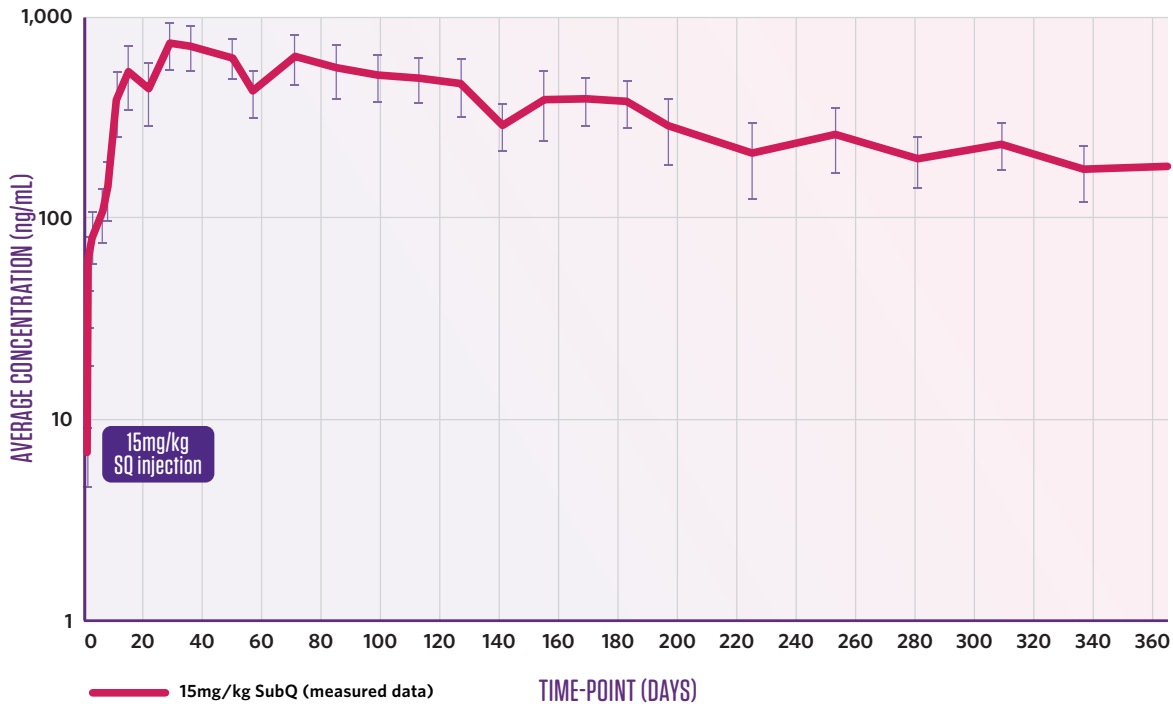
FOR THE FIRST TIME, YOU'RE IN **TOTAL CONTROL**



BRAVECTO QUANTUM™ is a revolutionary, once-a-year injection that gives you the power to deliver 12 months of uninterrupted flea and paralysis tick protection.

UNLEASH THE POWER OF CRYSTALLISED FLURALANER

Plasma fluralaner concentrations following subcutaneous administration⁶



BRAVECTO QUANTUM is a ground-breaking injectable suspension of fluralaner crystals. Following subcutaneous injection, the innovative crystal structures slowly dissolve and fluralaner is continuously released from the injection site, allowing it to be sustained over a period of 12 months.⁶

KILL FLEAS AND PARALYSIS TICKS FOR A FULL YEAR IN DOGS 6 MONTHS OR OLDER WITH A SINGLE INJECTION*



Treatment and prevention of flea (*Ctenocephalides felis*) infestations for 12 months (1 year)

Control of flea allergy dermatitis (FAD)



Control of paralysis tick (*Ixodes holocyclus*) for 12 months (1 year)



Control of brown dog tick (*Rhipicephalus sanguineus*) for 11 months

*15 mg fluralaner/kg body weight.

THE FIRST AND ONLY SYSTEMIC YEAR-LONG FLEA PROTECTION

- **BRAVECTO QUANTUM** provides treatment and prevention of flea (*Ctenocephalides felis*) infestations for 12 months (1 year) and control of flea allergy dermatitis (FAD).⁷
- Is effective against fipronil-resistant strains of fleas.⁷
- A single injection will control flea infestations on the dog within 2 days of treatment.⁷
- From Day 6, newly emerged adult fleas are killed before they lay eggs, for a full year.⁷
- Long-lasting efficacy controls newly emerged fleas before viable eggs are produced; effectively controlling flea populations in the dog's environment.⁷

100% flea efficacy at 48 hours post treatment.⁶

Onset of efficacy against fleas

- Pen onset of efficacy study.⁶
- 48 healthy pure- and mixed-breed dogs were randomly assigned to 3 untreated control groups (24 dogs) or 3 **BRAVECTO QUANTUM** treatment groups (24 dogs).
- Each dog was infested with 100 fleas 48 hours prior to treatment.
- Flea counts and egg collections were performed 24, 48, and 72 hours post treatment to evaluate onset of efficacy.

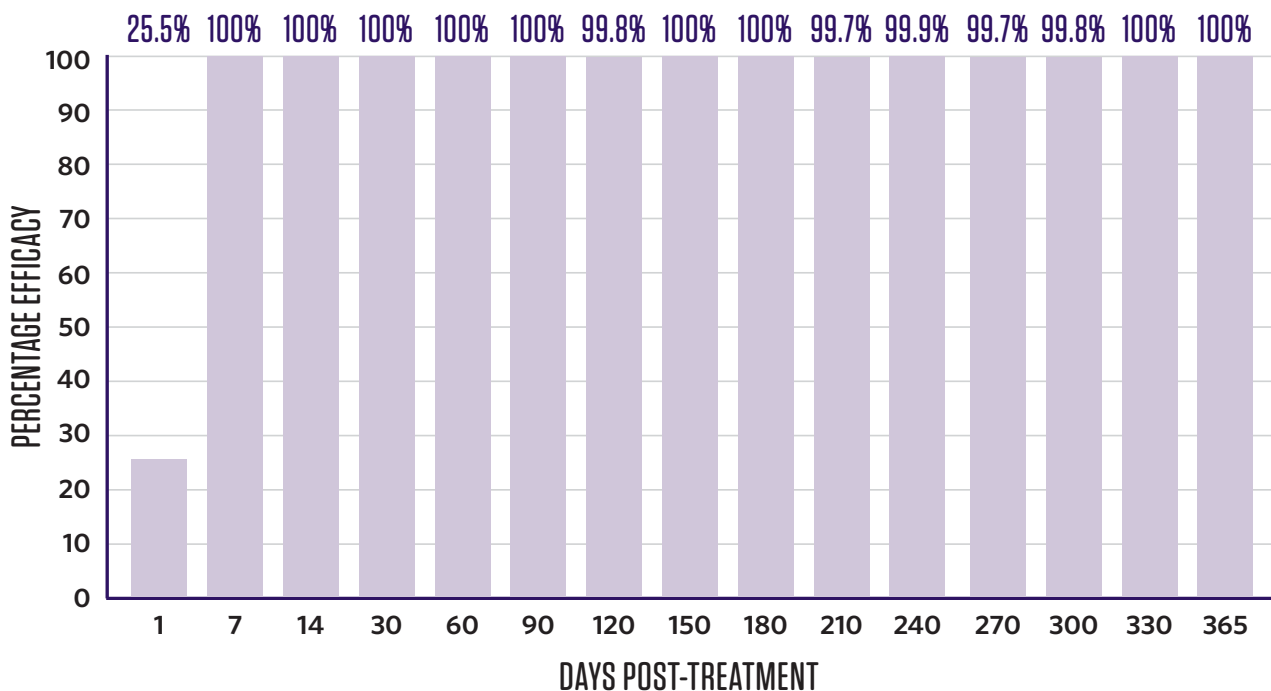
HOURS	CONTROL GROUP FLEA COUNT	FLURALANER (15mg/kg) GROUP FLEA COUNT	EFFECTIVENESS
24	58.3	6.4	89.1%
48	75.6	0	100%
72	66.4	0	100%

SUSTAINED FLEA EFFICACY

- Pen study with 20 dogs.⁶
- 10 dogs per group: **BRAVECTO QUANTUM** treatment and untreated control.
- Each dog was infested with 100 fleas at each infestation time point, which occurred on Days -1, 6, 13, 29, 59, 89, 119, 149, 179, 239, 269, 299, 329, and 364.
- Efficacy against existing infestations was assessed 24 hours after the administration of **BRAVECTO QUANTUM** on Day 0 i.e. 48 hours after infestation on Day -1.
- Efficacy of **BRAVECTO QUANTUM** was also assessed 24 hours after each of the post-treatment flea infestations.

From Day 6, 24-hour efficacy (the time at which fleas may start laying eggs) was sustained at **99.7-100%** at each time point throughout the entire year.

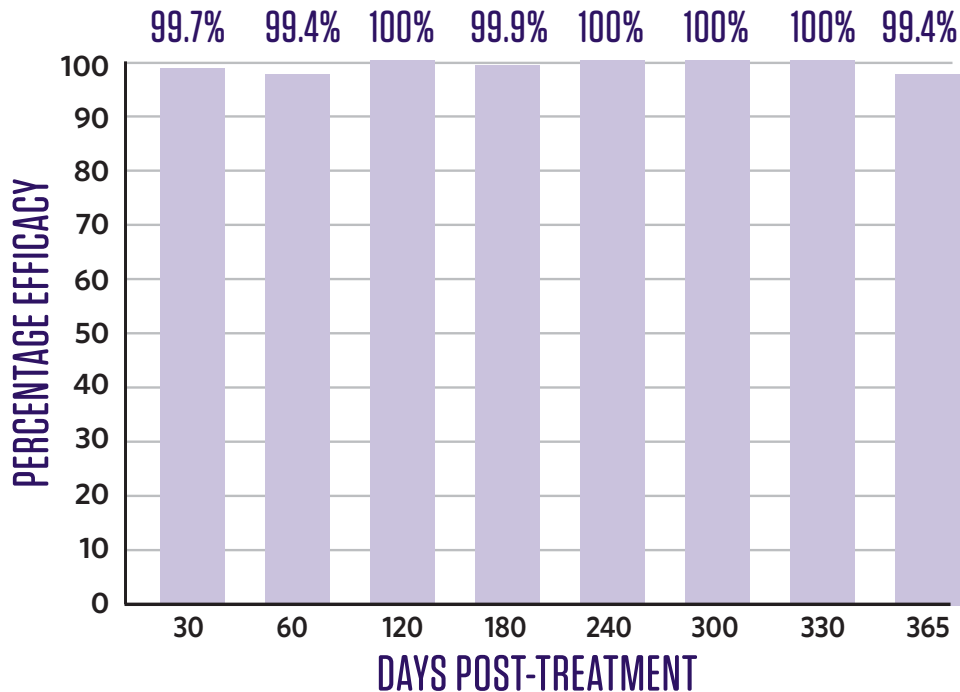
Sustained efficacy against flea infestations



After Day 7, no eggs from fleas on treated dogs were found at any subsequent time point throughout the one-year study period, confirming **BRAVECTO QUANTUM** breaks the flea life cycle by killing adult fleas before they lay eggs.

FLEA PROTECTION THAT LASTS

NEW SOUTH WALES Field Study⁶



- 50 dogs in 29 households were enrolled in the study and treated with **BRAVECTO QUANTUM** on Day 0.
- Households ranged from 1 to 3 dogs on Day 0. Most households were 1 or 2 dog households.
- Initial flea counts ranged from 10 to 320 fleas.

PROFILE OF STUDY DOGS	AGE	WEIGHT	BREED
	6 months to 14 years	1.9 kg to 43.2 kg	Variety

Efficacy was **99.4-100%** under field conditions for 12 months in privately-owned dogs representing a range of ages, breeds and sizes from the Central Coast region of New South Wales, Australia.

What field study participants had to say about BRAVECTO QUANTUM

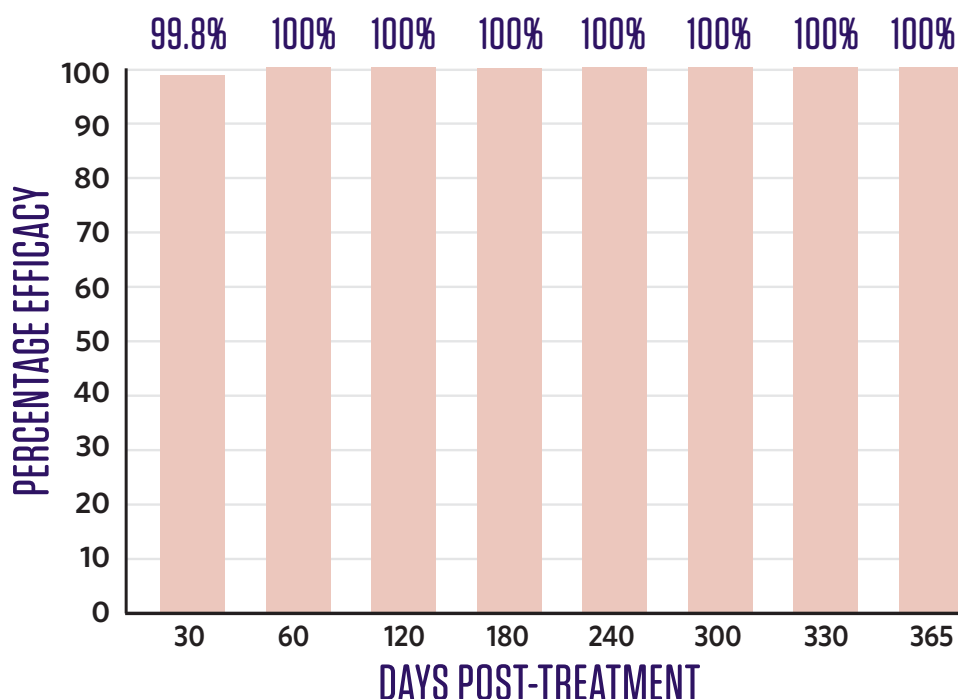
"The treatment has been really good. I haven't seen any fleas for the last 12 months. Longest working product that I've seen work."

"This product is marvellous."

"The product has been the best thing ever."

PREVENT FLEA INFESTATIONS

QUEENSLAND Field Study⁶



- 24 dogs in 18 households were enrolled in the study and treated with **BRAVECTO QUANTUM** on Day 0.
- Households ranged from 1 to 3 dogs on Day 0. Most households were 1 or 2 dog households.
- **Initial flea counts ranged from 8 to 62 fleas.**

PROFILE OF STUDY DOGS	AGE	WEIGHT	BREED
	7 months to 13 years	4.1 kg to 41.0 kg	Variety

Efficacy was **99.8-100%** under field conditions for 12 months in privately-owned dogs representing a range of ages, breeds and sizes from the south eastern region of Queensland, Australia.

"It's been nice not to have to remember to give anything for 12 months."

"Thanks for a flea free year."

"It's fabulous - would definitely get it when available."

"I'd like to keep her on the product!"

THE LONGEST LASTING PARALYSIS TICK PROTECTION AVAILABLE

- **BRAVECTO QUANTUM** provides control of paralysis tick (*Ixodes holocyclus*) for 12 months (1 year).⁷
- A single injection takes 3 days to exert its full effect, so it should be administered at least 3 days before the dog is exposed to paralysis ticks. Ticks already on dogs prior to administration will not be killed immediately after injection. These ticks should be removed, as the risk of tick paralysis cannot be entirely eliminated.⁷
- **BRAVECTO QUANTUM** demonstrated $\geq 95\%$ efficacy against paralysis ticks at 72 hours after new tick infestations for 12 months (1 year).⁷
- For paralysis tick control it is recommended that the product be used in conjunction with daily searching for, and removal of any ticks found, as the risk of tick paralysis cannot be entirely eliminated.

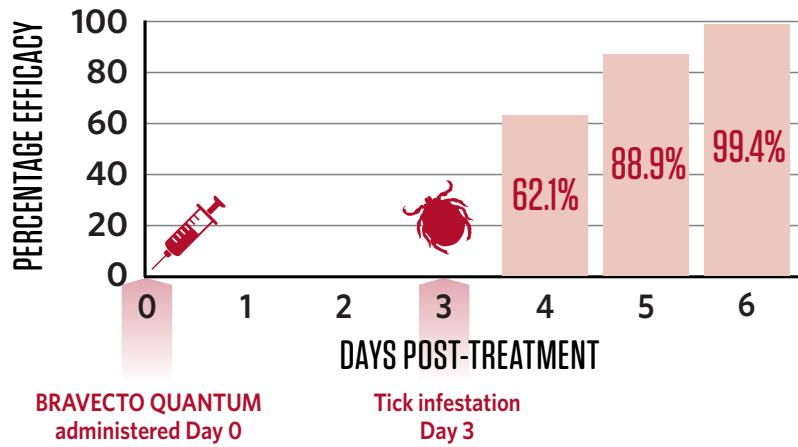
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Two onset of efficacy studies determined that **BRAVECTO QUANTUM** achieved efficacy (>95%) against paralysis ticks at 72 hours when dogs were infested 3 days post administration.⁶

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STUDY 1

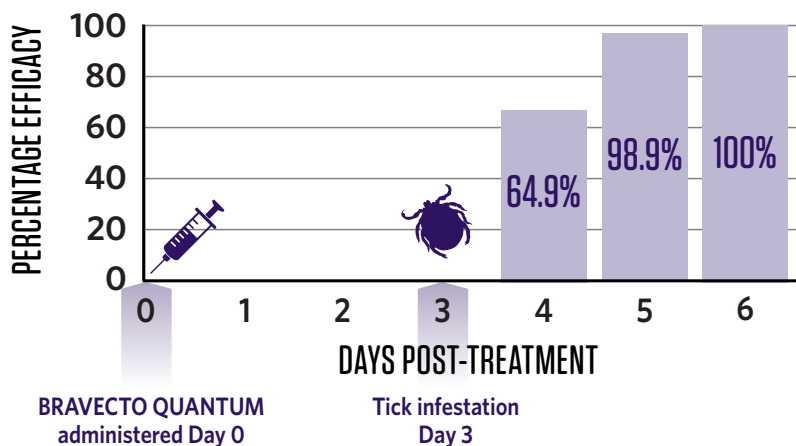
Efficacy 24, 48 and 72 hours post paralysis tick infestation



- Australian study in 14 dogs divided into 2 groups of 7 (1 treatment, 1 control).⁶
- **BRAVECTO QUANTUM** administered on Day 0.
- Infested with 30 paralysis ticks on Day 3.
- Efficacy measured at 24, 48 and 72 hours post paralysis tick infestation.

STUDY 2

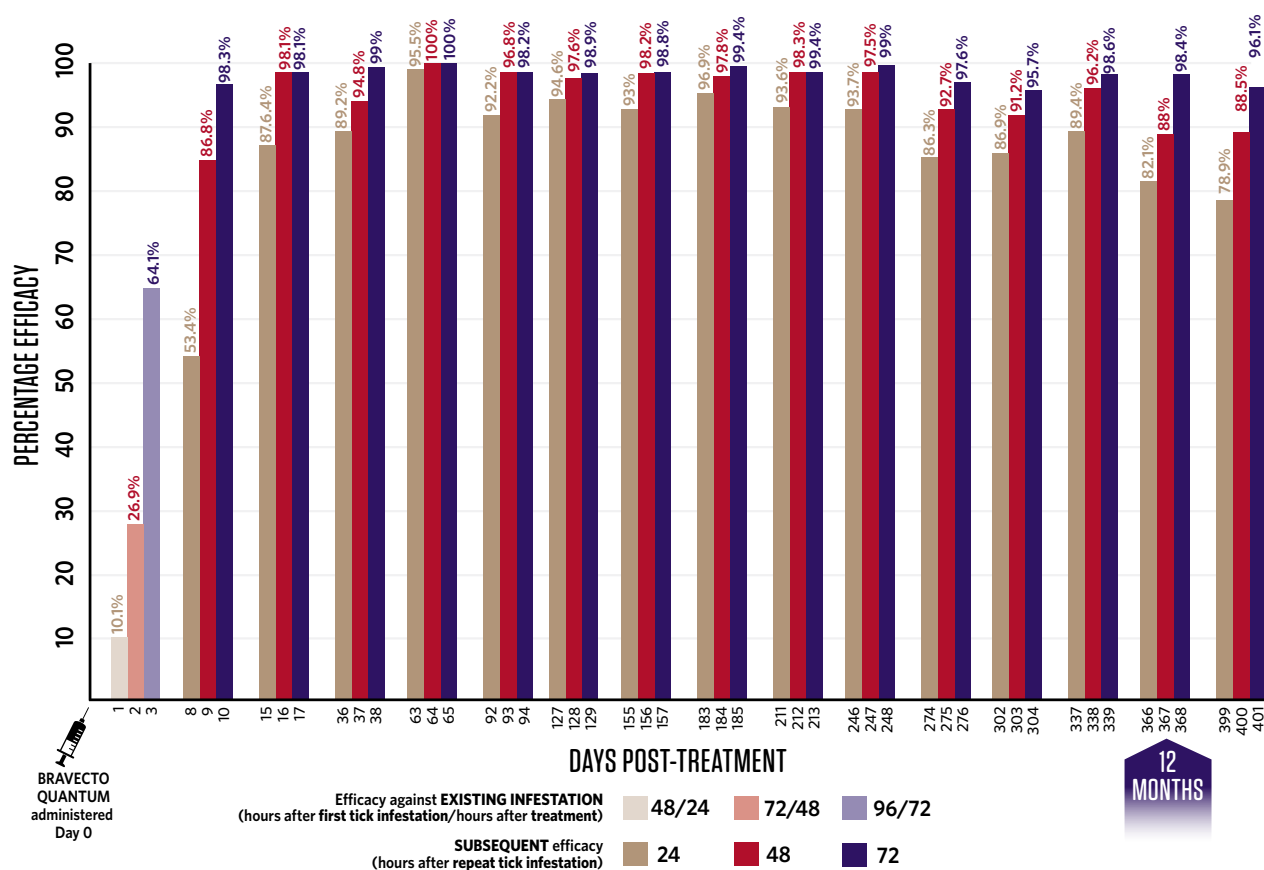
Efficacy 24, 48 and 72 hours post paralysis tick infestation



- Australian study in 16 dogs divided into 2 groups of 8 (1 treatment, 1 control).⁶
- **BRAVECTO QUANTUM** administered on Day 0.
- Infested with 25 paralysis ticks on Day 3.
- Efficacy measured at 24, 48 and 72 hours post paralysis tick infestation.

PERSISTENT EFFICACY AGAINST A DEADLY THREAT

Persistent efficacy against paralysis ticks at 24, 48 and 72 hours post infestation⁶



Persistent efficacy of $\geq 95.0\%$ was achieved post infestation on Day 7 (72-hour tick count on Day 10) and was maintained throughout the study.⁶

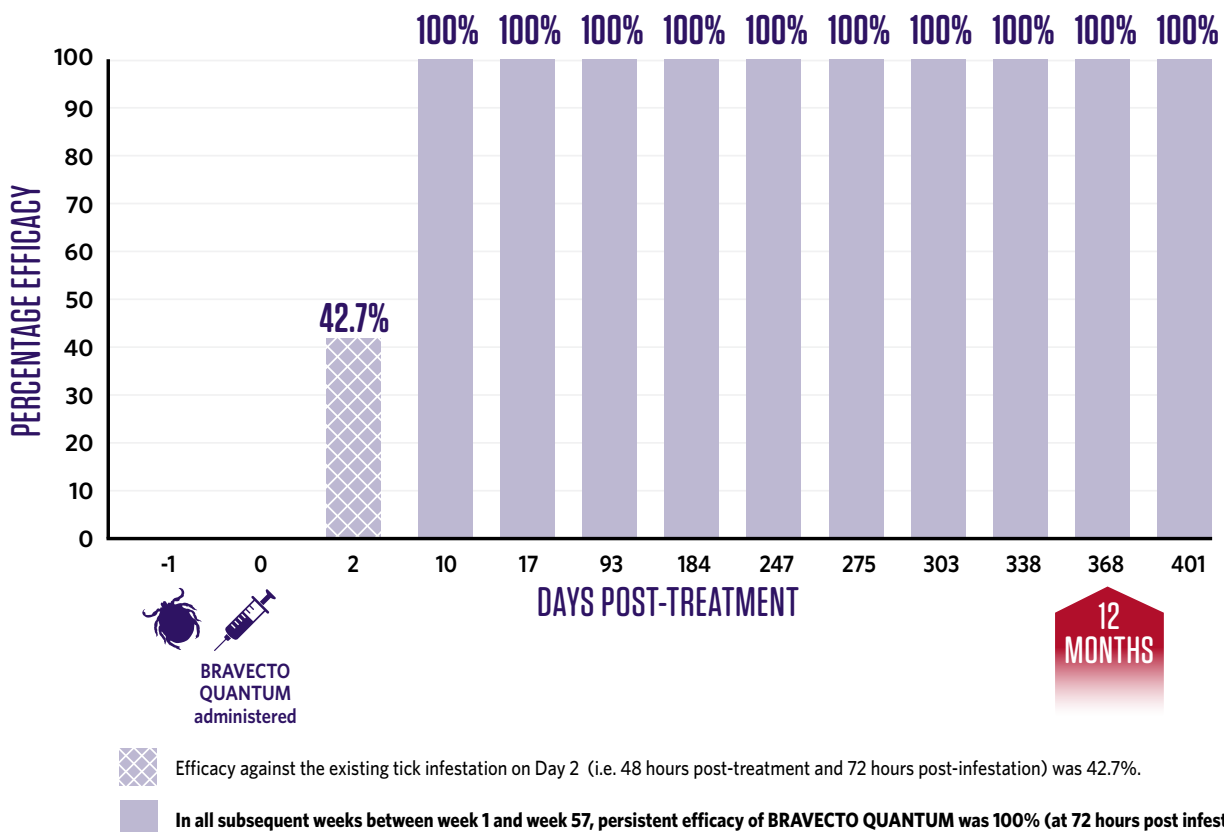
- Pen study conducted in Australia to measure persistent efficacy against paralysis ticks on dogs for 13 months.⁶
- 20 dogs immunised to holocyclotoxin were divided into 2 groups (treatment and control).
- 25 paralysis ticks were manually attached to the dogs on Days -1, 7, 14, 35, 62, 91, 126, 154, 182, 210, 245, 273, 301, 336, 365 and 398.
- Dogs were treated with **BRAVECTO QUANTUM** on Day 0.
- Paralysis tick assessments and counts were performed 24, 48 and 72 hours post-treatment to determine efficacy against an existing infestation and 24, 48 and 72 hours post subsequent infestations to determine persistent efficacy. To obtain a control claim for paralysis ticks, the APVMA requires $>95\%$ efficacy at 72 hours post infestation.

PROVEN PROTECTION

- Pen study conducted in Australia to measure persistent efficacy against paralysis ticks on dogs for 13 months.⁶
- 20 dogs were divided into 2 groups (treatment and control).
- **BRAVECTO QUANTUM** administered on Day 0.
- Dogs infested with 25* paralysis ticks on Days -1, 7, 14, 90, 181, 244, 272, 300, 335, 365 and 398.
- Efficacy against an existing infestation and subsequent infestations was determined at 72 hours.

*Exceptions occurred on Day 90 (15 ticks per dog) and Day 181 (23 ticks per dog) due to restricted supply of ticks.

Efficacy against paralysis ticks 72 hours after infestation

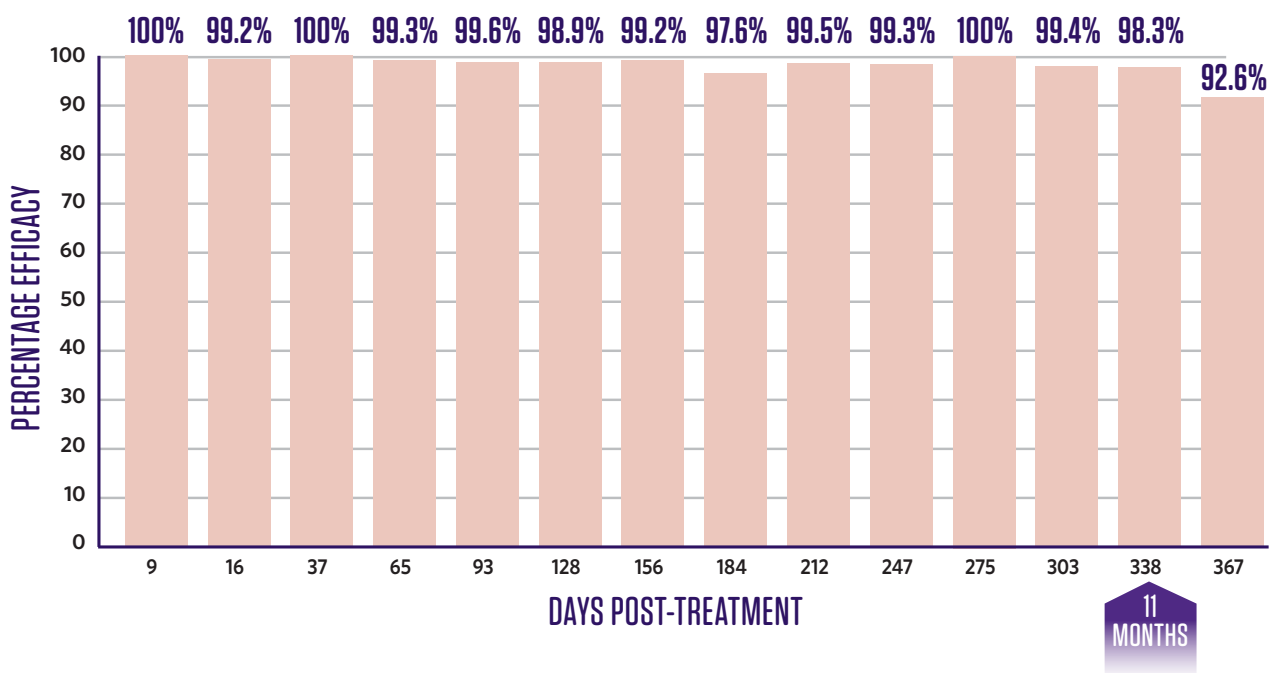


THE LONGEST LASTING BROWN DOG TICK PROTECTION AVAILABLE

- Pen study conducted in Australia.⁶
- 20 dogs were divided into 2 groups (treatment and control).
- **BRAVECTO QUANTUM** administered Day 0.
- 50 brown dog ticks (*Rhipicephalus sanguineus*) were used for each dog at each infestation which occurred on Days 7, 14, 35, 63, 91, 126, 154, 182, 210, 245, 273, 301, 336 and 365.
- Efficacy assessed 48 hours after each brown dog tick infestation.

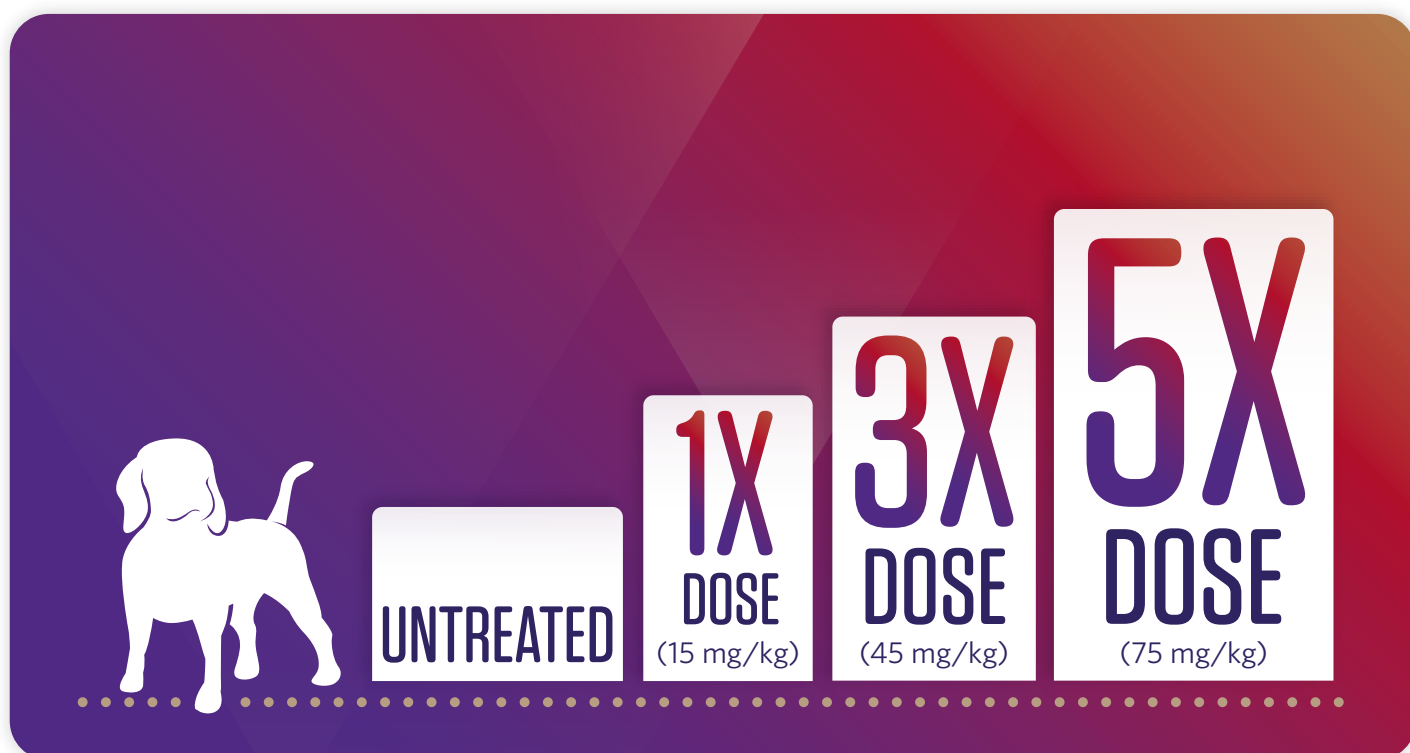
Persistent efficacy against post-treatment infestations ranged between 97.6% and 100.0% for 11 months. At 12 months efficacy was 92.6%.

11 months efficacy against brown dog ticks



TRUST THE DEMONSTRATED SAFETY OF FLURALANER

BRAVECTO QUANTUM was demonstrated to be safe in dogs at 5X the recommended dose when administered every 4 months for a total of 6 doses.⁶



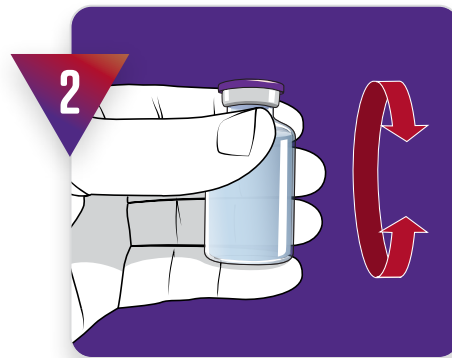
- No systemic adverse effects attributable to administration were seen.
- The only treatment-related finding limited to transient, non-painful injection site swellings that resolved over time, with no further treatment required.
- Fluralaner was well tolerated in Collies with a deficient multidrug-resistance protein 1 (MDR1 -/-) following single oral administration at 3 times the maximum recommended oral dose.
- The safety of **BRAVECTO QUANTUM** has not been established for use in breeding, pregnant or lactating dogs.
- During laboratory and clinical field testing, no interactions between **BRAVECTO QUANTUM** and routinely used veterinary medicinal products were observed.
- Fluralaner is part of the isoxazoline family of chemicals. Adverse reactions to this family of chemicals are rarely observed but may include vomiting, diarrhoea, lethargy, inappetence, itching and very rarely, seizures. Most adverse reactions are self-limiting and of short duration.

A QUICK INJECTION FOR LASTING PROTECTION

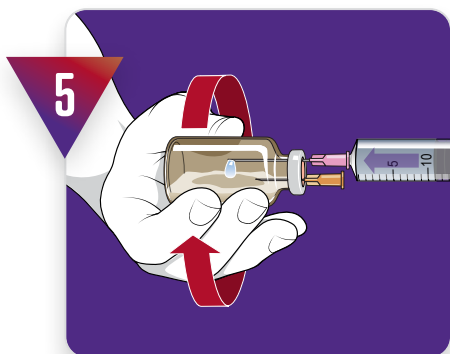
Carefully follow the instructions for preparing BRAVECTO QUANTUM.
Use only 15 mL of sterile vehicle when suspending to ensure accurate dosing.



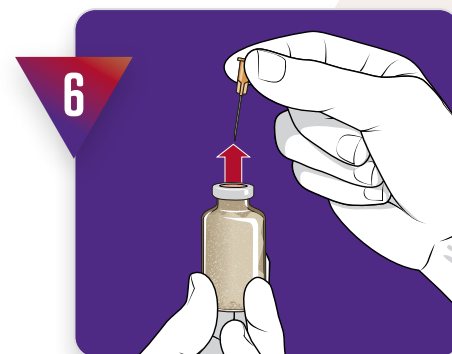
1 Shake the fluralaner powder vial to break up any aggregates prior to constitution.



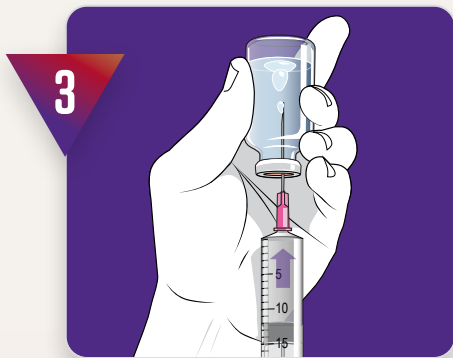
2 Invert the vehicle vial at least 3 times until visibly uniform. The vehicle solution may be clear to cloudy in appearance.



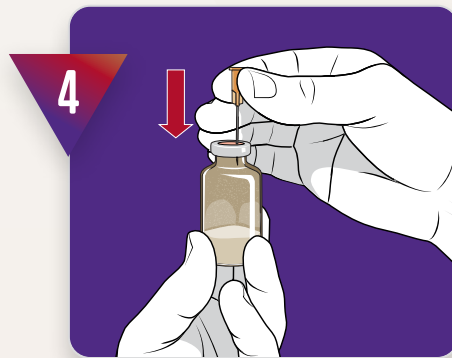
5 While rotating the vial horizontally in hand, slowly transfer the vehicle into the fluralaner powder vial to ensure complete wetting of the powder.[†]



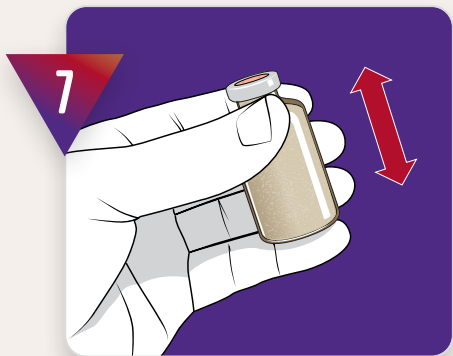
6 Remove the vent and transfer needles from the fluralaner powder vial. Discard needles.



3
Inject up to 14 mL of air into the vehicle vial using an 18 G needle and 20 mL syringe, then withdraw 15 mL of the vehicle from the vial.*



4
Insert a 25 G vent needle into the top of the fluralaner powder vial.



7
Shake the vial vigorously for at least 30 seconds until a thoroughly mixed suspension of the fluralaner powder and vehicle is produced.

BRAVECTO QUANTUM ADMINISTRATION

- For use in dogs from **6 months of age** only.
- For **subcutaneous injection** only.
- Dose rate of suspended product is 0.1 mL per kg body weight.
- Administer between the shoulder blades (dorsoscapular region) of the dog to provide a dose of **15 mg fluralaner per kg body weight**.
- Do not inject suspended product intravenously.

GUIDE TO WEIGHT SPECIFIC DOSE VOLUMES

BODY WEIGHT* (KG)	DOSE VOLUME (mL)
1	0.1
5	0.5
10	1.0
15	1.5
20	2.0
25	2.5
30	3.0
35	3.5
40	4.0
45	4.5
50	5.0
55	5.5
60	6.0

* For use in dogs from 6 months of age only.



STEP BY STEP ADMINISTRATION INSTRUCTIONS

- 1.** The fluralaner powder will separate out of suspension upon standing. **Before every use, shake the constituted vial vigorously for 30 seconds to achieve a uniform suspension.**
- 2.** Determine dose to be administered according to dosage table.
- 3.** Use a sterile syringe and an **18 G needle** for dosing. It may be necessary to inject air into the vial prior to dosing. To maintain a uniform suspension and accurate dosing, **the dose should be administered within 5 minutes after drawing into dosing syringe.**
- 4.** Use a new 18 G needle and inject the product subcutaneously in the dorsoscapular region.
- 5.** Discard constituted vials after 20 punctures to the stopper, or if product has been suspended for more than 3 months.

- A small amount of suspension will always remain in the syringe tip and vial.
- Extractable volume is approximately 14 mL to 15 mL depending on the number of doses used.
- Approximately 7 x 20 kg dog doses of 2 mL per vial.

FREQUENTLY ASKED QUESTIONS

Is BRAVECTO QUANTUM safe to administer with concurrent medications?

There are no known contraindications when using medications concurrently with **BRAVECTO QUANTUM**. During laboratory and clinical field testing, no interactions between **BRAVECTO QUANTUM** and routinely used veterinary medicinal products were observed.

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Why is BRAVECTO QUANTUM not able to be administered to dogs less than 6 months of age?

To avoid dogs outgrowing the **BRAVECTO QUANTUM** dose, studies were conducted in dogs 6 months of age or older. For growing puppies, from 8 weeks of age and greater than 2 kg, use **BRAVECTO**[®] 1-Month until the dog has reached a stable weight.

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Can I inject the BRAVECTO QUANTUM suspension using a smaller gauge needle instead of the recommended 18-gauge needle?

No. An 18-gauge needle must be used for injection as the fluralaner crystals in suspension may not pass adequately through smaller gauged needles. The suspension should be stored at room temperature and may avoid the discomfort associated with injecting a refrigerated product.

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Can BRAVECTO QUANTUM be used in cats?

BRAVECTO QUANTUM has not been evaluated in cats and therefore its use is not recommended.

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How do I store BRAVECTO QUANTUM?

Once the fluralaner powder has been suspended, the **BRAVECTO QUANTUM** vial may be stored for up to 3 months at room temperature (below 30°C). Once drawn up into a syringe, the dose should be administered to the dog within 5 minutes to maintain a uniform suspension and accurate dosing.

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Does BRAVECTO QUANTUM have claims for parasites other than fleas and ticks?

No. To treat and control ear mites, demodex mites or sarcoptic mange use **BRAVECTO** Chew or **BRAVECTO** Spot-on for Dogs.

Will BRAVECTO QUANTUM be effective against a pre-existing tick infestation?

BRAVECTO QUANTUM takes 3 days to exert its full effect, so it should be applied at least 3 days before the dog is exposed to paralysis ticks. Ticks already on dogs prior to administering **BRAVECTO QUANTUM** will not be killed immediately after injection.

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Is BRAVECTO QUANTUM safe?

A margin of safety study was performed and demonstrated safety at doses of 1X (15 mg/kg), 3X (45 mg/kg) and 5X (75 mg/kg) administered every 4 months for 6 consecutive doses. The only treatment-related finding was limited to transient, non-painful injection site swellings that resolved over time, with no further treatment required.

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When should dogs commence treatment with BRAVECTO QUANTUM?

Dogs can commence treatment at any time they are unprotected against fleas and brown dog ticks. For paralysis ticks **BRAVECTO QUANTUM** takes 3 days to exert its full effect, so it should be administered at least 3 days before the dog is exposed to paralysis ticks.

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How soon after administering an alternative ectoparasiticide can I give BRAVECTO QUANTUM?

Concurrent use with **BRAVECTO QUANTUM** and other ectoparasiticides has not been studied, therefore the recommendation is to administer **BRAVECTO QUANTUM** at the end of the dosing interval of the current ectoparasiticide.

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Why is BRAVECTO QUANTUM only registered for 11 months against brown dog tick?

BRAVECTO QUANTUM efficacy against brown dog tick ranged from 97.6% to 100% during months 1 to 11 and 92.6% at month 12. The efficacy standard set by the Australian Pesticides and Veterinary Medicines Authority for a control claim against brown dog tick is $\geq 95\%$.

A BREAKTHROUGH WORTH CELEBRATING ALL YEAR LONG!

Discover a new, innovative formulation of a trusted active ingredient.

- The first and only once-a-year injection for flea and paralysis tick protection.
- Sustained efficacy without risk of monthly compliance gaps.
- A crystallised formulation of a trusted active ingredient - fluralaner.
- Easy administration by you in your practice - exclusive to veterinarians.

THE LATEST INNOVATION IN A LINE OF UNIQUE SOLUTIONS



Deliver year-long flea and paralysis tick protection with just one injection.
Speak to your MSD Animal Health representative to learn more.

References: 1. The Case for Year-Round Flea and Tick Control. Companion Animal Parasite Council (CAPC) website. Accessed March 8, 2023. <https://capcvet.org/articles/the-case-for-year-round-flea-and-tick-control>. 2. Atwell, Campbell and Evans. (2001) Prospective survey of tick paralysis in dogs. *Australian Veterinary Journal*, 79; 412-418. 3. Padula, AM (2016) 'Tick paralysis of animals in Australia' in Vogel, C. *et al* (eds.) *Clinical Toxicology in Australia, Europe and Americas*. Dordrecht: Springer, pp 279-304. 4. Lavan R, Normile D, Husain I, Singh A, Armstrong R, Heaney K. An assessment of canine ectoparasiticide administration compliance in the USA. *Parasites & Vectors*. 2022;15:32. 5. Eppleston, K.R., Kelman, M. and Ward, M.P. (2013) Distribution, seasonality and risk factors for tick paralysis in Australian dogs and cats. *Veterinary Parasitology*, 196(3-4); 400-468. 6. MSD Data on file. 7. Refer to BRAVECTO QUANTUM product label for details.