1. NAME OF THE VETERINARY MEDICINAL PRODUCT

Suprelorin 4.7 mg implant for dogs

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Active substance:

Deslorelin (as deslorelin acetate) 4.7 mg

For the full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

Implant.
White to pale yellow cylindrical implant.

4. CLINICAL PARTICULARS

4.1 Target species

Dogs (male).

4.2 Indications for use, specifying the target species

For the induction of temporary infertility in healthy, entire, sexually mature male dogs.

4.3 Contraindications

None.

4.4 Special warnings for each targhet species

Infertility is achieved from 6 weeks up to at least 6 months after initial treatment. Treated dogs should therefore still be kept away from bitches on heat within the first 6 weeks after initial treatment.

One out of 75 dogs treated with the veterinary medicinal product during clinical trials mated and tied with a bitch on heat within six months of implantation, but this did not result in pregnancy. Should a treated dog mate with a bitch between 6 weeks and 6 months after treatment, appropriate measures should be taken to rule out the risk of pregnancy.

In rare cases, suspected lack of expected efficacy has been reported (in the majority of cases a lack of reduction of testicle size was reported and/or a bitch was mated). Only testosterone levels (i.e. an established surrogate marker of fertility) could definitely confirm a lack of efficacy of the treatment. If lack of treatment efficacy is suspected, then the dog's implant (e.g. presence) should be checked.

Any mating that occurs more than 6 months after the administration of the veterinary medicinal product may result in pregnancy. However, it is not necessary to keep bitches away from treated dogs following subsequent implantations, provided that the veterinary medicinal product is administered every 6 months.

If loss of the first implant is suspected, then this can be confirmed by observing no reduction in scrotal circumference or plasma testosterone levels after 6 weeks from the suspected date of loss, as both should reduce under correct implantation. If loss of the implant is suspected following re-implantation

after 6 months, then a progressive increase will be seen in scrotal circumference and/or plasma testosterone levels. In both of these circumstances a replacement implant should be administered.

The ability of dogs to sire offspring following their return to normal plasma testosterone levels, after the administration of the veterinary medicinal product, has not been investigated.

With respect to testosterone levels (an established surrogate marker of fertility), during clinical trials more than 80 % of dogs administered one or more implants, returned to normal plasma testosterone levels (≥0.4 ng/ml) within 12 months of implantation. Ninety-eight percent of dogs returned to normal plasma testosterone levels within 18 months of implantation. However, data demonstrating the complete reversibility of clinical effects (reduced testicular size, reduced ejaculation volume, reduced sperm count and reduced libido) including fertility after 6 months, or repeated implantation, are limited. In very rare cases, the temporary infertility may last more than 18 months.

During clinical trials, most of the smaller size dogs (<10 kg bodyweight) maintained suppressed levels of testosterone for more than 12 months following implantation. For very large dogs (>40 kg bodyweight), data are limited but duration of testosterone suppression was comparable to that seen in medium and large dogs. The use of the veterinary medicinal product in dogs of less than 10 kg or more than 40 kg bodyweight, therefore, should be subject to a risk/benefit assessment performed by the veterinarian.

Surgical or medical castration might have unexpected consequences (i.e. improvement or worsening) on aggressive behaviour. Thus, dogs with sociopathic disorders and showing episodes of intra-specific (dog to dog) and/or inter-specific (dog to another species) aggressions should not be castrated either surgically or with the implant.

4.5 Special precautions for use

Special precautions for use in animals

The use of the veterinary medicinal product in pre-pubertal dogs has not been investigated. It is therefore recommended that dogs should be allowed to reach puberty before treatment with the veterinary medicinal product is initiated.

Data demonstrate that treatment with the veterinary medicinal product will reduce the libido of the dog.

Special precautions to be taken by the person administering the veterinary medicinal product to animals

Pregnant women should not administer the veterinary medicinal product. Another GnRH analogue has been shown to be foetotoxic in laboratory animals. Specific studies to evaluate the effect of deslorelin when administered during pregnancy have not been conducted.

Although skin contact with the veterinary medicinal product is unlikely, should this occur, wash the exposed area immediately, as GnRH analogues may be absorbed through the skin.

When administering the veterinary medicinal product, take care to avoid accidental self-injection by ensuring that animals are suitably restrained and the application needle is shielded until the moment of implantation.

In case of accidental self-injection, seek medical advice immediately, with a view to having the implant removed. Show the package leaflet or the label to the physician.

4.6 Adverse reactions (frequency and seriousness)

Moderate swelling at the implant site was commonly observed for 14 days during safety/efficacy studies.

During the treatment period, rare clinical effects have been reported: hair coat disorders (e.g. hair loss, alopecia, hair modification), urinary incontinence, down-regulation associated signs (e.g. decrease in testicle size, reduced activity,weigh gain). In very rare cases, a testicle may be able to ascend the inguinal ring.

In very rare cases, there has been transitory increased sexual interest, increased testicle size and testicular pain immediately after implantation. These signs resolved without treatment.

In very rare cases, a transient behavioural change has been reported with the development of aggression (see section 4.4).

In humans and animals, testosterone modulates seizure susceptibility. On very rare occasions (<0.01%) transient occurrence of seizure has been reported shortly after implantation, though the casual relationship with the application of the implant has not been established. In some cases, the dog had displayed epileptic seizure prior to the implant administration or was diagnosed as suffering from epilepsy.

The frequency of adverse reactions is defined using the following convention:
- very common (more than 1 in 10 animals treated displaying adverse reaction(s))
- common (more than 1 but less than 10 animals in 100 animals treated)
- uncommon (more than 1 but less than 10 animals in 1,000 animals treated)
- rare (more than 1 but less than 10 animals in 10,000 animals treated)
- very rare (less than 1 animal in 10,000 animals treated, including isolated reports).

4.7 Use during pregnancy, lactation or lay

Not applicable.

4.8 Interaction with other medicinal products and other forms of interaction

None known.

4.9 Amounts to be administered and administration route

Subcutaneous use.

The recommended dose is one implant per dog, irrespective of the size of the dog (see also point 4.4).

Disinfection of the implantation site should be undertaken prior to implantation to avoid introduction of infection. If the hair is long, a small area should be clipped, if required.

The veterinary medicinal product should be implanted subcutaneously in the loose skin on the back between the lower neck and the lumbar area. Avoid injection of the implant into fat, as release of the active substance might be impaired in areas of low vascularisation.

1. Remove Luer Lock cap from the implanter.

2. Attach the actuator to the implanter using the Luer Lock connection.

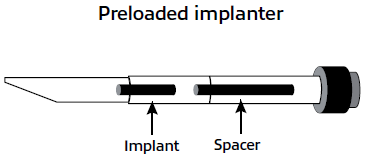
3. Lift the loose skin between the shoulder blades. Insert the entire length of the needle subcutaneously.

4. Fully depress the actuator plunger and, at the same time, slowly withdraw the needle.

5. Press the skin at the insertion site as the needle is withdrawn, and maintain pressure for 30 seconds.

6. Examine the syringe and needle to ascertain that the implant has not remained within the syringe or needle, and that the spacer is visible. It may be possible to palpate the implant *in situ*.

Repeat administration every 6 months to maintain efficacy.



Do not use the veterinary medicinal product if the foil pouch is broken.

The biocompatible implant does not require removal. However, should it be necessary to end treatment, implants may be surgically removed by a veterinarian. Implants may be located using ultrasound.

4.10 Overdose (symptoms, emergency procedures, antidotes), if necessary

No clinical adverse reactions other than those described in section 4.6 have been observed following simultaneous subcutaneous administration of up to 10 times the recommended dose.
Histologically, mild local reactions with chronic inflammation of the connective tissue and some capsule formation and collagen deposition have been seen at 3 months after administration following simultaneous subcutaneous administration of up to 10 times the recommended dose.

4.11 Withdrawal period(s)

Not applicable.

5. PHARMACOLOGICAL PROPERTIES

Pharmacotherapeutic group: Pituitary and hypothalamic hormones and analogues, Gonadotropin-releasing hormones (GnRH), ATCvet code: QH01CA93.

5.1 Pharmacodynamic properties

The GnRH agonist, deslorelin, acts by suppressing the function of the pituitary-gonadal axis when applied in a low, continuous dose. This suppression results in the failure of treated animals to synthesise and/or release follicle stimulating hormone (FSH) and luteinising hormone (LH), the hormones responsible for the maintenance of fertility.

The continuous low dose of deslorelin will reduce the functionality of the male reproductive organs, libido and spermatogenesis and lower the plasma testosterone levels, from 4-6 weeks after implantation. A short transient increase in plasma testosterone may be seen immediately after implantation. Measurement of plasma concentrations of testosterone has demonstrated the persistent pharmacological effect of the continuing presence of deslorelin in the circulation for at least six months following administration of the veterinary medicinal product.

5.2 Pharmacokinetic particulars

It has been shown that plasma deslorelin levels peak 7 to 35 days following administration of an implant containing 5 mg radiolabelled deslorelin. The substance can be directly measured in the plasma up to approximately 2.5 months post implantation. The metabolism of deslorelin is rapid.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Hydrogenated palm oil
Lecithin
Sodium acetate anhydrous

6.2 Major incompatibilities

None known.

6.3 Shelf life

Shelf life of the veterinary medicinal product as packaged for sale: 3 years.

6.4 Special precautions for storage

Store in a refrigerator (2°C – 8°C).
Do not freeze.

6.5 Nature and composition of immediate packaging

The implant is supplied in a pre-loaded implanter. Each pre-loaded implanter is packaged in a sealed foil pouch, which is subsequently sterilised.

Cardboard carton containing either two or five individually foil wrapped implanters that have been sterilised, together with an implanting device (actuator) that is not sterilised. The actuator is attached to the implanter using the Luer Lock connection.

Not all pack sizes may be marketed.

6.6 Special precautions for the disposal of unused veterinary medicinal product or waste materials derived from the use of such products

Any unused veterinary medicinal product or waste materials derived from such veterinary medicinal products should be disposed of in accordance with local requirements. The actuator can be re-used.

7. MARKETING AUTHORISATION HOLDER

VIRBAC
1ère avenue 2065 m LID
06516 Carros
FRANCE

8. MARKETING AUTHORISATION NUMBER(S)

EU/2/07/072/001
EU/2/07/072/002

9. DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

Date of first authorisation: 10/07/2007
Date of latest renewal: 17/05/2017

10. DATE OF REVISION OF THE TEXT

Detailed information on this veterinary medicinal product is available on the website of the European Medicines Agency http://www.ema.europa.eu

PROHIBITION OF SALE, SUPPLY AND/OR USE

Not applicable.