

*Fact Sheet Compiled by: Monica McDonald
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Fact Sheet Reviewed by: Cheri Asa*



Lupron®

Active Ingredient

Leuprolide acetate

Product Type

GnRH agonist

Manufacturer

TAP Pharmaceuticals

Product information

Lupron, a GnRH agonist in a liquid, slow-release vehicle, is formulated to be injected. It was first approved for treatment of prostate cancer in men, so is very expensive, but can sometimes be acquired through donation from the manufacturer. In wildlife, it has been used primarily in males to suppress testosterone and sperm production but should also be effective as a contraceptive for females.

Safety to humans

There is no health risk to humans when administered as directed.

Latency to effectiveness

Because the initial effect is to stimulate the reproductive system, it is important to either separate treated animals from opposite sex individuals during the period of enhanced fertility or use another form of contraception. Females treated with Lupron should be considered fertile for 3 weeks following injection. Males may remain fertile for up to 2 months, until residual sperm either degenerate or are passed (as following vasectomy).

Suppression of initial estrus/ovulation

Estrus and ovulation that can occur within 2 weeks following injection can be suppressed with supplemental progestin treatment for 2 weeks (7 days prior through 7 days after injection). Megestrol acetate (Ovaban) tablets are the simplest for short-term progestin administration, with the tablet offered as part of a treat. Depo-Provera should not be substituted for megestrol acetate, because its initial high levels and prolonged release may interfere with Lupron efficacy. MGA implants can be left in place for 1-2 weeks following Lupron injection, but then should be removed to prevent interference with the down-regulation action. Leaving them in place longer may compromise Lupron efficacy.

Signs of estrus during treatment

As a GnRH agonist, Lupron first stimulates, then suppresses estrus in females. Species with induced ovulation (e.g., felids, some mustelids, bears) may ovulate and become pseudo-pregnant (which also occurs in canids) when first treated.

Duration of efficacy and reversibility

Lupron is available in formulations lasting from 1 to 6 months in humans, but duration of efficacy and time to reversal in wildlife species may vary.

Use during pregnancy

GnRH agonists should not be used during pregnancy, as they may cause abortion. Since data on this topic is limited for Lupron, most of our information comes from the use of Suprelorin (deslorelin) in females.

Use during lactation

No available information specifically for Lupron, but it probably acts as other GnRH agonists. Therefore, there are no known contraindications once lactation has been established.

Use in pre-pubertal animals

Because this product suppresses gonadal steroids, its use may delay epiphyseal closure of the long bones, resulting in taller individuals, similar to the effects of pre-pubertal spaying and neutering in domestic dogs and cats. GnRH agonist use in prepubertal domestic cats was followed by reproductive cycles after treatment ceased. However, species differences may occur.

Precautions

In general, the effects on body weight should be similar to those from ovariectomy or castration. Preliminary data indicate that increased appetite will result in weight gain, especially in females, unless food is restricted. In males, muscle loss may result in overall weight loss if not replaced by fat. In sexually dimorphic species, males may become the size (weight) of females. Animals may lose secondary sex characteristics (e.g., lions may lose their manes).

Consideration for seasonal breeders

In females of some taxa, GnRH agonists can induce estrus and ovulation even during the non-breeding season. In males, GnRH agonists can transiently stimulate testosterone production even during the non-breeding season. Treatment should begin more than 2 months prior to the anticipated breeding season to prevent initiation of spermatogenesis, because it appears that suppression of sperm production is more easily accomplished before it has commenced.

Reporting Requirements

All institutions using this product are asked to contribute contraception information for their animals to the AZA Reproductive Management Center's Contraception Database (<https://www.zoocontraceptiondata.org>). It is essential that accurate records of doses and treatment intervals be maintained, and results reported, to contribute to dosage development.

For questions about the RMC Contraception Database, contact:

Ashley Franklin, Program Analyst
AZA Reproductive Management Center
One Government Drive
Saint Louis, MO 63110

301-956-0171; fax: 314-646-5534
franklin@stlzoo.org