Chemistry/Synonyms
Deracoxib is a diaryl-substituted pyrazole that is chemically related to other coxib-class NSAIDs such as celecoxib. Its molecular weight is 397.38.

Deracoxib's chemical name is: 4-[3-(difluoromethyl)-5-(3-fluoro-4-methoxyphenyl)-1H-pyrazole-1-yl] benzenesulfonamide.

Storage/Stability
The commercially available chewable tablets for dogs should be stored at room temperature between 15–30°C (59–86°F).

Dosage Forms/Regulatory Status
VETERINARY-LABELED PRODUCTS:

Deracoxib Chewable (scored) Tablets: 25 mg, 75 mg, & 100 mg in bottles of 7, 30 and 90 tablets; *Deramaxx*® (Novartis) (Rx). Approved for use in dogs.

The ARCI (Racing Commissioners International) has designated this drug as a class 4 substance. See the appendix for more information.

HUMAN-LABELED PRODUCTS: None

***Dermcaps*® — see Fatty Acids**
DES — see Diethylstilbestrol

DESLORELIN ACETATE

(dess-*lor*-a-lin) Ovuplant®

HORMONAL AGENT

Prescriber Highlights

- Synthetic GnRH analog for estrual mares to induce & time ovulation
- No labeled contraindications
- Adverse Effects: May cause some local swelling, pain, etc; interovulatory period may be prolonged if implant not removed
- Availability may be an issue

Uses/Indications
Deslorelin is approved for inducing ovulation in estrual mares. There is also interest in developing dosages and dosage forms as a long-term, reversible contraceptive in a variety of animal species, as a treatment for prostatic disease in male dogs, and incontinence in ovariectomized dogs. At the time of writing, deslorelin in not available in the USA, but is marketed in Canada.

In humans, deslorelin has been investigated for treating children with precocious puberty, and in adults for prostate carcinoma, dysmenorrhea, fibroids, and endometriosis.

Pharmacology/Actions
Deslorelin increases the levels of endogenous luteinizing hormone (LH), thereby inducing ovulation. When developing follicles are greater than 30 mm in diameter, deslorelin induces ovulation in approximately 85% of mares within 48 hours of administration.

Pharmacokinetics
In horses after implantation of a 2.1 mg pellet, concentrations of LH and FSH peak about 12 hours after implant and return to pretreatment levels approximately 3–4 days after implantation. Oral dosing of 100 mcg/kg to Beagles, demonstrated no increase in LF or FSH.

Contraindications/Precautions/Warnings
When used as indicated, the manufacturer lists no contraindications.

Adverse Effects
Minor local swelling, sensitivity to touch, and elevated skin temperature at injection site may occur; these effects should resolve within 5 days of implantation.

There is some evidence that deslorelin implants can suppress pituitary FSH secretion and decrease follicular development in subsequent diestrus, leading to a prolonged interovulatory period. Some clinicians (see the dose recommendation by McCue 2003, below), recommend removing the implant to negate this possibility.

Reproductive/Nursing Safety
Abnormalities in foal viability or behavior related to the use of deslorelin have not been observed in foals born to treated mares.

Overdosage/Acute Toxicity
Overdosage is unlikely. If inadvertent administration of additional implant is done, it should be removed upon detection if within 96 hours of implant.

Drug Interactions
No specific interactions noted

Laboratory Considerations
None noted

Doses
HORSES:

For induction of ovulation:

a) If follicle is greater than 30 mm in diameter (as determined by rectal palpation or ultrasound), and breeding is to take place within 48 hours, place one implant subcutaneously in the neck. Implant site should be midway between head and shoulder over the muscle mass of the neck and away for subcutaneous nerves and vessels. Thoroughly disinfect site of implant. Insert the entire length of needle SC and fully depress the implanter plunger. Slowly withdraw needle while pressing skin at injection site. Examine implanter to assure that implant has been administered. Do not reuse implanter. Implant will be absorbed with time. (Package insert; *Ovuplant*®)

b) As above, but because interovulatory interval may be prolonged if implant is left in the mare, remove after approximately 48 hours.

Alternative dosing/removal method: Restrain mare and briefly wash vulva with soap and water and then dry. One mL of lidocaine is infused into the edge of the vulva. The implant is inserted just beneath the epithelium in the blocked area. When the lidocaine is absorbed, the implant can be palpated. After ovulation, the implant can be gently "squeezed" out of the original opening created by the implant device. No treatment is required at the site after removal of the implant. (McCue 2003a)

Monitoring
- None required

Chemistry/Synonyms
Deslorelin acetate is a synthetic gonadotropin-releasing hormone (GnRH, gonadorelin) analog. It is a nonapeptide and has chemical modifications in the amino aide composition at positions 6 and 9/10.

Storage/Stability
Deslorelin implants should be stored refrigerated (2–8°C, 36–46°F).

Dosage Forms/Regulatory Status
VETERINARY-LABELED PRODUCTS: None in the USA

In Canada: Deslorelin 2.1 mg cylindrical implant with implanter; 5 per box *Ovuplant*® (Wyeth. Approved for ovulation induction in mares. Not for use in horses intended for food.

The FDA may allow legal importation of this medication for compassionate use in animals; for more information, see the *Instructions for Legally Importing Drugs for Compassionate Use in the USA* found in the appendix.

HUMAN-LABELED PRODUCTS: None

DESMOPRESSIN ACETATE

(des-moe-***press***-in) Stimate®, DDAVP®

HORMONAL AGENT

Prescriber Highlights

- Synthetic vasopressin analogue used to treat diabetes insipidus & Von Willebrand's disease (limited usefulness)
- Contraindications: Hypersensitivity to desmopressin, type IIB or platelet-type (pseudo) Von Willebrand's (German shorthair pointers?)
- Use caution in patients susceptible to thrombosis
- Adverse Effects: Eye irritation after conjunctival administration; hypersensitivity possible
- Overdoses can cause fluid retention/hyponatremia

Uses/Indications
Desmopressin has been found to be useful in the treatment of central diabetes insipidus in small animals. It may be useful in treating Von Willebrand's disease, but its short duration of activity (2–4 hours) in this condition, resistance development, and expense limit its usefulness for this disorder. Desmopressin may be useful perioperatively to reduce lymph node involvement and metastatic disease in canine mammary gland cancer.

Pharmacology/Actions
Desmopressin is related structurally to arginine vasopressin, but it has more antidiuretic activity and less vasopressor properties on a per weight basis. Desmopressin increases water reabsorption by the collecting ducts in the kidneys, thereby increasing urine osmolality and decreasing net urine production. Therapeutic doses do not directly affect either urinary sodium or potassium excretion.

Desmopressin causes a dose-dependent increase in plasma factor VIII and plasminogen factor and also causes smaller increases in factor VIII-related antigen and ristocetin cofactor activities.

Pharmacokinetics
Because desmopressin is destroyed in the GI tract, it usually is given parenterally or topically. Oral tablets have been used in those dogs that cannot tolerate ophthalmic administration, but bioavailability is very low. In humans, intranasal administration is commonly used, while in veterinary medicine topical administration to the conjunctiva is preferred. The onset of antidiuretic action in dogs usually occurs within one hour of administration, peaks in 2–8 hours, and may persist for up to 24 hours. Distribution characteristics of desmopressin are not well described, but it does enter maternal milk. The metabolic fate is also not well understood. Terminal half lives in humans after IV administration are from 0.4–4 hours.

Contraindications/Precautions/Warnings
Desmopressin is contraindicated in patients hypersensitive to it. It should not be used for treatment of type IIB or platelet-type (pseudo) Von Willebrand's disease as platelet-aggregation and thrombocytopenia may occur. German shorthair pointers apparently can have this type of vWD. Desmopressin should be used with caution in patients susceptible to thrombotic events.

When desmopressin is used to stimulate von Willebrand factor, with repeated administration tachyphylaxis (increasing lack of efficacy) will occur to a variable extent within 24 hours.

Adverse Effects
Side effects in small animals apparently are uncommon. Occasionally eye irritation may occur after conjunctival administration. Hypersensitivity reactions are possible. Humans using the drug have complained about increased headache frequency.

Reproductive/Nursing Safety
Safe use during pregnancy has not been established; however safe doses of up to 125 times the average human antidiuretic dose have been given to rats and rabbits without demonstration of fetal harm. In humans, the FDA categorizes this drug as category ***B*** for use during pregnancy (*Animal studies have not yet demonstrated risk to the fetus, but there are no adequate studies in pregnant women; or animal studies have shown an adverse effect, but adequate studies in pregnant women have not demonstrated a risk to the fetus in the first trimester of pregnancy, and there is no evidence of risk in later trimesters.*)

Desmopressin is likely safe to use during nursing.

Overdosage/Acute Toxicity
Oral doses of 0.2 mg/kg/day have been administered to dogs for 6 months without any significant drug-related toxicities reported. Dosages that are too high may lead to fluid retention and hyponatremia; dosage reduction and fluid restriction may be employed to treat. Adequate monitoring should be performed.

Drug Interactions
The following drug interactions have either been reported or are theoretical in humans or animals receiving desmopressin and may be of significance in veterinary patients:

- **CHLORPROPAMIDE, FLUDROCORTISONE, UREA**: May enhance the antidiuretic effects of desmopressin

Laboratory Considerations
See Monitoring Parameters