

Medetomidine

SCHEDULING STATUS: S4

CURRENTLY COMPOUNDED FORMULATIONS:

Active ingredient(s)	Injectable	Oral equine paste	Oral carnivore paste	Orals for exotics	Oral solution/suspension	Topical treatment	Shampoo	Capsules/Tablets	Oral powder
Medetomidine hydrochloride	✓			✓					

REGISTERED PRODUCT/ TRADE NAME: Domitor®

PHARMACOLOGICAL CLASSIFICATION: Alpha₂ adrenergic agonist

PHARMACOLOGICAL ACTION: Has an alpha₂:alpha₁ selectivity factor of 1620, and when compared to xylazine is reportedly 10x more specific for alpha₂ receptors versus alpha₁ receptors. The pharmacologic effects include: depression of CNS (sedation, anxiolysis), GI and endocrine functions, peripheral and cardiac vasoconstriction, bradycardia, respiratory depression, diuresis, hypothermia, analgesia, muscle relaxation and blanched or cyanotic mucous membranes. Can cause hypertension longer than xylazine. Also induces sedation for a longer period than does xylazine.^[1]

INDICATIONS: Sedative analgesic used primarily in dogs and cats, but our concentrations are primarily used in wildlife.

DOSAGE AND DIRECTIONS FOR USE:

DOGS:

Slight to moderate sedation: 0.01-0.03 mg/kg IM, IV or SC^[2]

Moderate to deep sedation/analgesia: 0.03-0.08 mg/kg IM, IV or SC^[2]

CATS:

Moderate sedation: 0.05-0.1 mg/kg IM or SC^[2]

Deep sedation, analgesia: 0.1-0.15 mg/kg IM or SC^[2]

SMALL MAMMALS/ RODENTS:

For chemical restraint:

- Rats: 0.25-0.5 mg/kg IM
- Guinea pigs: 0.5 mg/kg IM
- Rabbits: 0.25-0.5 mg/kg IM (Burke 1999)^[1]

FERRETS:

As a sedative/analgesic: 15 minutes prior to medetomidine, give atropine (0.05 mg/kg or glycopyrrrolate (0.01 mg/kg)) then give medetomidine at 0.06-0.08 mg/kg IM or SC^[1]

BIRDS:

For sedation/analgesia: 0.1 mg/kg IM; limited data available on duration of effect, adverse effects, etc. (Clyde and Paul-Murphy 2000).^[2]

WILDLIFE:

0.08-0.1 mg/kg generally but 0.02-0.04 mg/kg (in combination with other immobilizing drugs).^[4]

REPTILES:

- Small to medium land tortoises: medetomidine 0.1-0.15 mg/kg with ketamine 5-10 mg/kg IV or IM^[1]
- Freshwater turtles: medetomidine 0.15-0.3 mg/kg with ketamine 10-20 mg/kg IV or IM^[1]

- Giant land tortoises: 200 kg Aldabra tortoise: medetomidine 0.04 mg/kg with ketamine 4 mg/kg IV or IM. Smaller Aldabra tortoises: medetomidine 0.04-0.08 mg/kg with ketamine 4-8 mg/kg IV or IM. Wait 30-40 minutes for peak effect^[1]
- Iguanas: medetomidine 0.1-0.15 mg/kg with ketamine 5-10 mg/kg IV or IM^[1]

WARNINGS/ PRECAUTIONS/ CONTRA-INDICATIONS:

- Contra-indicated for use in pregnant dogs or those used for breeding purposes.^[1]
- Medetomidine is contraindicated in dogs having the follow conditions: cardiac disease, respiratory disorder, liver or kidney diseases, shock, severe debilitation, or dogs stressed due to heat, cold or fatigue.^[1]
- Dogs that are extremely agitated or excited may have a decreased response to medetomidine. Suggests allowing these dogs to rest quietly before administration of the drug. Dogs not responding to medetomidine should not be re-dosed. Use in very young or older dogs should be done with caution.^[1]
- The adverse effects reported with medetomidine are essentially extensions of its pharmacologic effects including bradycardia, occasional AV blocks, decreased respiration, hypothermia, urination, vomiting, hyperglycemia, and pain or injection (IM). Rare effects have also been reported, including prolonged sedation, paradoxical excitation, hypersensitivity, apnea and death from circulatory failure.^[1]
- Single doses of up to 5x (IV) and 10x (IM) were tolerated in dogs, but adverse effects can occur. Death has occurred rarely in dogs (1 in 40 000) receiving 2x doses.^[1]
- Before attempting combination therapy with medetomidine, it is strongly advised to access references from veterinary anesthesiologists familiar with the use of this product.^[1]

REFERENCES:

1. Plumb's Veterinary Drug Handbook, Sixth Edition by Donald C. Plumb – page 480-481
2. IDR, Volume 10 2009/2010
3. Medicines and Related Substances Act, 1965 (Act No. 101 of 1965) www.doh.gov.za
4. Chemical and Physical Restraint of Wild Animals, Edited by Michael D. Kock, David Meltzer and Richard Burroughs