

Description

M-K is a safe anesthesia combination of Medetomidine HCl and Ketamine HCl, that can be used to immobilize a broad range of species. These two pharmaceuticals when used in combination of: Medetomidine (5 mg/ml) and Ketamine HCl (150 mg/ml), provides smooth induction times and excellent recovery. M-K immobilization can be easily reversed after 20 minutes with a single injection of Atipamezole HCl.

Background

This highly effective combined formulation has been used in thousands of immobilizations and controlled studies for many years. As stated by Dr. Harry Jalanka in his noted 1990 study entitled: The Use of Medetomidine, Medetomidine-Ketamine Combinations, and Atipamezole in Nondomestic Mammals: A Review, "Medetomidine, a potent alpha2-agonist, in combination with the dissociative anesthetic ketamine, has been used to immobilize a variety of nondomestic mammals. The recent development of potent and specific alpha2 adrenoceptor agonists and antagonists has enhanced their use in nondomestic animal immobilization and reversal.

"While Medetomidine alone induces sedation in a dose-dependent way, and complete immobilization has been achieved with high doses in non-domestic animals, we feel that ketamine should be added to the immobilization mixture to ensure complete immobilization and operator safety. Clinically, the resulting immobilization is characterized by a smooth onset, good to excellent myorelaxation. We have had no fatalities attributable to this immobilization mixture (1,240 immobilizations)."

The alpha2 adrenoceptor antagonist, Atipamezole, is highly effective in reversing the immobilization induced by Medetomidine-Ketamine combinations. In ruminants, carnivores, marsupials, primates, and rodents the MedetomidineKetamine-induced immobilization has shown to be rapidly and persistently reversed with the Atipamezole antagonist.

Indications: Wildlife Management

Our M-K premixed formulation was developed to provide veterinarians and wildlife biologists with a convenient immobilization anesthesia option that is effective in broad species applications; safe and easily reversible; with a simple, small volume dosing schedule.

How Supplied

Each M-K Kit includes the following components:

- **Vial #1:**
M-K Combo 10ml Vial containing Medetomidine HCl 5mg/ml
Ketamine HCl 150mg/ml
- **Vial #2:**
Atipamezole 10ml Vial at a concentration of 25mg/ml

Chemistry and Pharmacology

This combination of these two pharmaceuticals provides effective induction and smooth recovery based on the following characteristics.

Medetomidine

- Uses, dose and efficacy in wildlife was widely known when used with Carfentanil, A3080, Ketamine and Telazol
- Application in combination with Butorphanol and Azaperone (BAM) was a new concept in 2003
- With a good intramuscular dart hit, induction begins in 3-5 minutes and continues to sternal or lateral position in 8 to 12 minutes [in most deer]
- If no effect, or only a partial effect in 15 minutes, you can give a full dose again since the drugs are fully reversible

Ketamine (CIII)

- Widely used in veterinary medicine for its analgesic and anesthetic effects in small animals
- Veterinarians often use ketamine in combination with sedative drugs to produce a balanced anesthesia and to prevent pain by a constant rate infusion
- Ketamine has a wide and vast use in non-domestic species. More recently it has found a broader species use combined with the newer more potent alpha-two agonist medetomidine
- Ketamine has a synergistic effect with medetomidine in elk, which has been reported anecdotally by many field studies

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