Medetomidine (hydrochloride)

Item No. 16454

CAS Registry No.: 86347-15-1

Formal Name: 5-[(2,3-dimethylphenyl)ethyl]-1H-imidazole, monohydrochloride

Synonyms: Domitor®, MPV 785

MF: C₁₃H₁₆N₂ • HCl

FW: 236.7

Purity: ≥98%

Stability: ≥2 years at -20°C

Supplied as: A crystalline solid

UV/Vis: λ_{max} 212 nm

Laboratory Procedures

For long term storage, we suggest that medetomidine (hydrochloride) be stored as supplied at -20°C. It should be stable for at least two years.

Medetomidine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the medetomidine (hydrochloride) in the solvent of choice. Medetomidine (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of medetomidine (hydrochloride) in ethanol is approximately 30 mg/ml and approximately 25 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of PBS can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of medetomidine (hydrochloride) in PBS, pH 7.2, is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Medetomidine is an imidazole derivative that acts as a selective agonist of α₂-adrenoceptors (Kᵢ = 1.08 nM vs. 1750 nM for α₁-adrenoceptors). Medetomidine is a mixture of D and L isomers, with the D form, known as dexmedetomidine (Item No. 15581), described as the active form. Through its effect on α₂-adrenoceptors, medetomidine has sedative, antinociceptive, analgesic, and hypothermic actions. Its effects on pain are additive or synergistic with fentanyl-type opioids. The effects of medetomidine are effectively countered by α₂-adrenoceptor antagonists, like atipamezole. Selective α₂-adrenoceptor agonists, including medetomidine, have anesthetic sparing properties, greatly reducing the dose of anaesthetic required following premedication with the α₂-adrenoceptor agonist.

References


Related Products

For a list of related products please visit: www.caymanchem.com/catalog/16454

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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