cis-Tramadol (hydrochloride)

Item No. 15919

CAS Registry No.: 36282-47-0
Formal Name: rel-2R-[(dimethylamino)methyl]-1R-(3-methoxyphenyl)-cyclohexanol, monohydrochloride

Synonyms: CG 315, Contramal, NIH 10969, Tramal, Ultram®, Zydol
MF: C₁₆H₂₅NO₂ • HCl
FW: 299.8
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis: λ_max: 203, 218, 272 nm

Laboratory Procedures

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

cis-Tramadol (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the cis-tramadol (hydrochloride) in the solvent of choice. cis-Tramadol (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 cis-tramadol (hydrochloride) in ethanol and DMF is approximately 20 mg/ml and approximately 15 mg/ml in DMSO.

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 cis-tramadol (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of tramadol (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

cis-Tramadol is an analgesic that activates the µ-opioid receptor (IC₅₀ = 7.6 µM).¹² It also inhibits serotonin and norepinephrine reuptake and blocks voltage-gated sodium channels.¹³,4 This product is intended for forensic and research applications.

References


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