

Product Data Sheet

Product Name: Dextrorphan (tartrate)

Cat. No.: GC18213

Chemical Properties

Cas. No. 143-98-6

Chemical Name (9 α ,13 α ,14 α)-17-methyl-morphinan-3-ol 2R,3R-dihydroxybutanedioate

SMILES CN1[C@@H]2[C@@]3([H])CCCC[C@@]3(CC1)C4=CC(O)=CC=C4C2.O[C@H]([C@H](O)C(O)=O)C(O)=O

Formula C₁₇H₂₃NO.C₄H₆O₆ M.Wt 407.5

Solubility 20mg/mL in DMSO, 10mg/mL in DMF Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

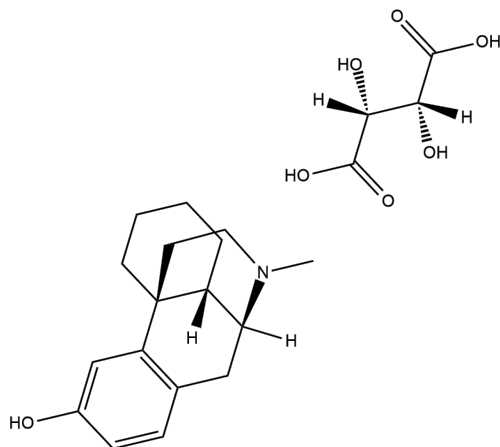
Caution: Product has not been fully validated for medical applications. For research use only.

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Address: 10292 Central Ave. #205, Montclair, CA, USA

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Structure



Protocol

Animal experiment [1]:

Animal models Rat

Preparation Method Slow i.v. injection of 4-6 mg/kg of dextrorphan (tartrate)

Dosage form Intravenous injection, 4-6 mg/kg

Applications I.v. injection of 4-6 mg/kg of dextrorphan (tartrate) resulted in a selective reduction of NMA-induced excitation similar to that seen during the local administration of the drug by electrophoresis.

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References:

[1]: J.D. Church, D. Lodge, S.C. Berry. Differential effects of dextrorphan and levorphanol on the excitation of rat spinal neurons by amino acids. Eur J Pharmacol, 111 (1985), pp. 185-190

Background

Dextrorphan (tartrate) is a phencyclidine-like metabolite of dextromethorphan, known as an antitussive in cough medicines [1]. Dextrorphan (tartrate) is a noncompetitive N-methyl-D-aspartate (NMDA) antagonist that is neuroprotective in experimental models of focal brain ischemia [2]. Dextrorphan (tartrate) concentrations producing IC₅₀ of K⁺-stimulated 45Ca²⁺ uptake into brain synaptosomes was 200±27 μM [3].

Dextrorphan (tartrate) inhibits excitatory amino acid (EAA) evoked neuronal responses, apparently by acting at a site on the NMDA-preferring EAA receptor or its associated Ca²⁺ channel.

Dextromethorphan and dextrorphan (tartrate) protect neurons from EAA-induced cytotoxicity [3].

In dextrorphan-treated patients, transient and reversible adverse effects, including nystagmus, nausea, vomiting, somnolence, hallucinations, and agitation, commonly occurred. Loading-dose escalation was stopped because of rapid-onset, reversible, symptomatic hypotension in 7 of 21 patients treated with doses of 200 to 260 mg/h. Maximum plasma levels of 750 to 1000 ng/mL were obtained in 9 patients [2].

References:

[1]. Shin, E.J., Lee, P.H., Kim, H.J., et al. Neuropsychotoxicity of abused drugs: Potential of dextromethorphan and novel neuroprotective analogs of dextromethorphan with improved safety profiles in terms of abuse and neuroprotective effects. Journal of Pharmacological Sciences 106(1), 22-27 (2008).

[2]. Albers GW, Atkinson RP, Kelley RE, Rosenbaum DM; Dextrorphan Study Group. Safety, tolerability, and pharmacokinetics of the N-methyl-D-aspartate antagonist dextrorphan in patients with acute stroke. Stroke. 1995; 26:254-258.

[3]. Carpenter CL, Marks SS, Watson DL, Greenberg DA. Dextromethorphan and dextrorphan as calcium channel antagonists. Brain Res. 1988; 439:372-375.

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