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Product Information

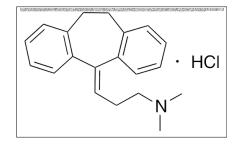
Product ID A5235

CAS No. 549-18-8

Chemical Name

Synonym 3-(10,11-Dihydro-5H-dibenzo[a,d]cycloheptene-5-ylidene)-N,N-dimethyl-1propanamine hydrochloride

Formula C₂₀H₂₃N · HCl Formula Wt. 313.86 Melting Point 195-197C Purity ≥98% Solubility Soluble in water, ethanol, DMSO



Bulk quanitites available upon request

Product ID	Size
A5235	10 g
A5235	25 g
A5235	100 g

Store Temp Ambient

Ship Temp Ambient

Description Amitriptyline exhibits antidepressant, antipsychotic, analgesic, and antinociceptive activities; it acts as an antagonist at 5-HT2A/2C/6/7 receptors, M1-5 muscarinic acetylcholine receptors (mAChRs), H1/4 histamine receptors, α1-adrenergic receptors, and also on the serotonin transporter (SERT) and norepinephrine transporter (NET). Additionally, amitriptyline acts as an agonist at σ1 receptors and TrkA/B receptors. Amitriptyline inhibits shaker-related Kv1.1 (KCNA1), Kv7.2 (KCNQ2), and Kv7.3 (KCNQ3) voltage-gated K+ channels and L-type voltage-gated Ca2+ channels; it inhibits expression of Nav1.1 (SCN1A) and Nav1.2 (SCN2A) voltage-gated Na+ channels and activates ryanodine RyR2 receptors. Amitriptyline also decreases levels of α1-adrenergic receptors in the cortex and cerebellum in vivo. In animal models of chronic constrictive injury and neuropathic pain, amitriptyline decreases thermal hyperanalgesia. In PC12 neurons, this compound exhibits neuroprotective activity, increasing neurite outgrowth and decreasing cell death. Amitriptylene is also a function inhibitor of acid sphingomyelinase (FIASMA).

References Effects of chronic administration of amitriptyline, gabapentin and minocycline on spinal brain-derived neurotrophic factor expression and neuropathic pain behavior in a rat chronic constriction injury model. Vanelderen P, Rouwette T, Kozicz T, Heylen R, Van Zundert J, Roubos EW, Vissers K. Reg Anesth Pain Med. 2013 Mar-Apr;38(2):124-30. PMID: 23337936.

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Caution: This product is intended for laboratory and research use only. It is not for human or drug use.