Amitriptyline (hydrochloride)

Item No. 15881

CAS Registry No.: 549-18-8
Formal Name: 3-(10,11-dihydro-5H-dibenzo[a,d]
cyclohepten-5-ylidene)-N,N-dimethyl-
1-propanamine, monohydrochloride

Synonyms: Domical, Elavil, Endep, Saroten
MF: C20H23N • HCl
FW: 313.9
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis: λ\text{max} 239 nm

Laboratory Procedures

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

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

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 physiologic effects at low concentrations. Organic solvent-free aqueous solutions of amitriptyline (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of amitriptyline (hydrochloride) in PBS, pH 7.2, is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Amitriptyline is a first generation tricyclic antidepressant. It strongly blocks the serotonin and norepinephrine transporters (K_0 = 4.3 and 35 nM, respectively) and inhibits the serotonin 5-HT_2A receptor (K_1 = 20 nM). Amitriptyline also antagonizes histamine H_1, muscarinic acetylcholine, and α_1-adrenergic receptors (K_0 = 1.1, 18, and 27 nM, respectively).

References


Related Products

For a list of related products please visit: www.caymanchem.com/catalog/15881

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

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 to you by email or to your institution.

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