Chlorpromazine (hydrochloride)

Item No. 16129

CAS Registry No.: 69-09-0
Formal Name: 2-chloro-N,N-dimethyl-10-H-phenothiazine-10-propanamine, monohydrochloride
Synonyms: CPZ, Largactil, Promacid, Thorazine
MF: C_{22}H_{21}ClN_{3}S • HCl
FW: 355.3
Purity: ≥98%
Stability: ≥2 years at -20°C

Supplied as: A crystalline solid
UV/Vis: λ_{max} 256, 308 nm

Laboratory Procedures

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

CPZ (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the CPZ (hydrochloride) in the solvent of choice. CPZ (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of CPZ (hydrochloride) in these solvents is approximately 30 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 physiological effects at low concentrations. Organic solvent-free aqueous solutions of CPZ (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of CPZ (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

CPZ is a phenothiazine classified as an antipsychotic compound.1 It antagonizes a range of receptors, including postsynaptic dopamine (D) and serotonin (5-HT) receptors (K_{i} = 0.66, 0.84, 1.2, and 1.8 nM for D_{2}, D_{3}, D_{4}, and 5-HT_{2A}, respectively).2-3 CPZ also antagonizes histamine (H), α_{1}, α_{2}-adrenergic, and muscarinic acetylcholine (M) receptors (K_{i} = 6, 0.28, 27, 46, and 47 nM for H_{1}, α_{1A}, α_{2B}, α_{2C}, and M_{3}, respectively).4

References

2. Seeman, P. and Tallerico, T. Antipsychotic drugs which elicit little or no Parkinsonism bind more loosely than typical and atypical antipsychotic drugs. Neuropsychopharmacology 28(3), 519-526 (2003).
3. Seeman, P., Corbett, R., and Van Tol, H.H. Atypical neuroleptics have low affinity for dopamine D_{2} receptors or are selective for D_{3} receptors. Neuropsychopharmacology 16(2), 93-110 (1997).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/16129

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 your institution.

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