Maprotiline (hydrochloride)
Item No. 15892

CAS Registry No.: 10347-81-6
Formal Name: N-methyl-9,10H-ethanoanthracene-9-propanamine, monohydrochloride
Synonyms: Depriplet, Ludiomil™
MF: C20H23N • HCl
FW: 313.9
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis: \( \lambda_{\text{max}} \) 272 nm

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

Maprotiline (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the maprotiline (hydrochloride) in the solvent of choice. Maprotiline (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of maprotiline (hydrochloride) in these solvents is approximately 15, 30, and 20 mg/ml, respectively.

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 maprotiline (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of maprotiline (hydrochloride) in PBS, pH 7.2, is approximately 0.1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Maprotiline is a norepinephrine reuptake inhibitor that binds the norepinephrine transporter with a \( K_D \) value of 11.1 nM.\(^1\) Comparatively, it only weakly associates with serotonin and dopamine transporters (\( K_D = 5.8 \) and 1 μM, respectively).\(^1\) However, maprotiline moderately inhibits serotonin 5-HT\(_{2A}\) receptors with a \( K_i \) value of 51 nM.\(^2\)

Maprotiline has also been reported to bind the histamine H\(_1\), muscarinic acetylcholine, \( \alpha_1 \)-adrenergic, and dopamine D\(_2\) receptors with \( K_D \) values of 2, 570, 90, and 350 nM, respectively.\(^3\) It has been used in the treatment of depression and also has been reported to possess sedative, anxiolytic, and sympathomimetic activities.\(^4,5\)

References

Related Products
For a list of related products please visit: www.caymanchem.com/catalog/15892

**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 via email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**
Cayman Chemical Company makes no warranty or guarantee of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals sold. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery. Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer’s exclusive remedy and Cayman’s sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman’s option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.