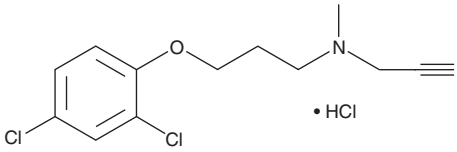
PRODUCT INFORMATION

Clorgyline (hydrochloride)

Item No. 15925

CAS Registry No.:	17780-75-5
Formal Name:	N-[3-(2,4-dichlorophenoxy)propyl]-N-methyl-2-propyn-1-amine, monohydrochloride
Synonym:	N-2,4-Dichlorophenoxypropyl-N-methylpropargylamine
MF:	$C_{13}H_{15}Cl_2NO \bullet HCl$
FW:	308.6
Purity:	≥98%
UV/Vis.:	λ_{max}: 229, 284 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Clorgyline (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the clorgyline (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Clorgyline (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of clorgyline (hydrochloride) in ethanol and DMF is approximately 15 mg/ml and approximately 10 mg/ml in DMSO.

Clorgyline (hydrochloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, clorgyline (hydrochloride) should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Clorgyline (hydrochloride) has a solubility of approximately 0.25 mg/ml in a 1:10 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Clorgyline is a potent monoamine oxidase (MAO) inhibitor that preferentially targets MAO-A over MAO-B (K_is = 0.054 and 58 µM, respectively).[1,2] This inhibition is irreversible.[1] Clorgyline is without effect on serotonin (Item No. 14332) receptors, but it does inhibit the sigma receptor σ_1 on Jurkat human T lymphocyte cells (IC_{50} = 31 nM).[3,4] As MAO-A preferentially oxidizes serotonin, selective MAO-A inhibitors have applications in ameliorating depression and anxiety.[1,5]

References

1. Abdelhafez, O.M., Amin, K.M., Ali, H.I., *et al.* Synthesis of new 7-oxycoumarin derivatives as potent and selective monoamine oxidase A inhibitors. *J. Med. Chem.* **55(23)**, 10424-10436 (2012).
2. Mazouz, F., Gueddari, S., Burstein, C., *et al.* 5-[4-(Benzyloxy)phenyl]-1,3,4-oxadiazol-2(3H)-one derivatives and related analogues: New reversible, highly potent, and selective monoamine oxidase type B inhibitors. *J. Med. Chem.* **36(9)**, 1157-1167 (1993).
3. Pälvimäki, E.P., Roth, B.L., Majasuo, H., *et al.* Interactions of selective serotonin reuptake inhibitors with the serotonin 5-HT_{2C} receptor. *Psychopharmacology (Berl)* **126(3)**, 234-240 (1996).
4. Ganapathy, M.E., Prasad, P.D., Huang, W., *et al.* Molecular and ligand-binding characterization of the σ-receptor in the Jurkat human T lymphocyte cell line. *J. Pharmacol. Exp. Ther.* **289(1)**, 251-260 (1999).
5. La Regina, G., Silvestri, R., Gatti, V., *et al.* Synthesis, structure-activity relationships and molecular modeling studies of new indole inhibitors of monoamine oxidases A and B. *Bioorg. Med. Chem.* **16(22)**, 9729-9740 (2008).

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