

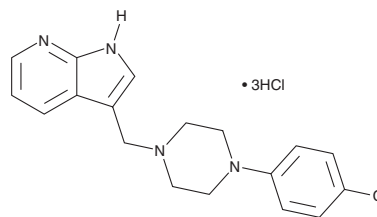
PRODUCT INFORMATION



L-745,870 (hydrochloride)

Item No. 37586

CAS Registry No.: 866021-03-6
Formal Name: 3-[[4-(4-chlorophenyl)-1-piperazinyl]methyl]-1H-pyrrolo[2,3-b]pyridine, trihydrochloride
MF: C₁₈H₁₉ClN₄ • 3HCl
FW: 472.7
Purity: ≥98%
Supplied as: A 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

L-745,870 (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the L-745,870 (hydrochloride) in the solvent of choice, which should be purged with an inert gas. L-745,870 (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of L-745,870 (hydrochloride) in ethanol is approximately 5 mg/ml and approximately 30 mg/ml in DMSO and DMF.

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 L-745,870 (hydrochloride) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of L-745,870 (hydrochloride) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

L-745,870 is a dopamine D₄ receptor antagonist (K_i = 0.43 nM).¹ It is selective for dopamine D₄ receptors over dopamine D₂ and D₃ receptors (K_is = 960 and 2,300 nM, respectively). It is also selective for dopamine D₄ receptors over α_{2A}, α_{2B}, and α_{2C} adrenergic receptors (IC₅₀s = 0.00043, 0.16, 0.17, and 0.23 μM, respectively) and the serotonin (5-HT) receptor subtypes 5-HT_{2C} and 5-HT_{1A} (IC₅₀s = 0.2 and 2.9 μM, respectively). L-745,870 (100 nM) inhibits dopamine-induced inhibition of forskolin-induced cAMP production in HEK293 cells expressing human dopamine D₄ receptors. *In vivo*, L-745,870 (3, 10, and 30 mg/kg) inhibits mescaline-induced head twitches in mice. L-745,870 (1 mg/kg) reduces L-DOPA-induced dyskinesia in a macaque model of MPTP-induced Parkinson's disease.²

References

1. Patel, S., Freedman, S., Chapman, K.L., *et al.* Biological profile of L-745,870, a selective antagonist with high affinity for the dopamine D₄ receptor. *J. Pharmacol. Exp. Ther.* **283**(2), 636-647 (1997).
2. Huot, P., Johnston, T.H., Koprach, J.B., *et al.* L-745,870 reduces L-DOPA-induced dyskinesia in the 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine-lesioned macaque model of Parkinson's disease. *J. Pharm. Exp. Ther.* **342**(2), 576-585 (2012).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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