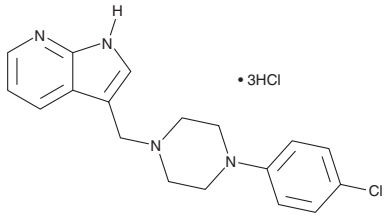
PRODUCT INFORMATION

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: $C_{18}H_{19}ClN_4 \bullet 3HCl$
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 D_4 receptor antagonist (K_i = 0.43 nM).[1] It is selective for dopamine D_4 receptors over dopamine D_2 and D_3 receptors (K_is = 960 and 2,300 nM, respectively). It is also selective for dopamine D_4 receptors over α_{2A}-, α_{2B}-, and α_{2C}-adrenergic receptors (IC_{50}s = 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} (IC_{50}s = 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 D_4 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., Koprich, 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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM