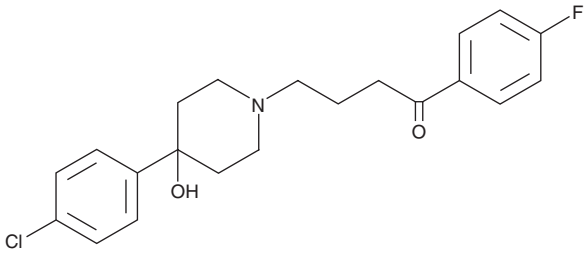
PRODUCT INFORMATION

Haloperidol

Item No. 12014

CAS Registry No.:	52-86-8
Formal Name:	4-[4-(4-chlorophenyl)-4-hydroxy-1-piperidinyl]-1-(4-fluorophenyl)-1-butanone
Synonyms:	McN-JR 1625, NSC 170973, NSC 615296, R 1625
MF:	$C_{21}H_{23}ClFNO_2$
FW:	375.9
Purity:	≥98%
UV/Vis.:	λ_{max}: 203, 221, 242 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

Haloperidol is supplied as a crystalline solid. A stock solution may be made by dissolving the haloperidol in the solvent of choice. Haloperidol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of haloperidol in these solvents is approximately 5, 14, and 20 mg/ml, respectively.

Haloperidol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, haloperidol should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Haloperidol has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Haloperidol is a typical antipsychotic and dopamine D_2-like receptor antagonist (K_is = 0.6, 0.2, and 22 nM, for D_2, D_3, and D_4 receptors, respectively).[1] It also acts as an inverse agonist at dopamine D_2 and D_3 receptors (IC_{50}s = 0.8 and 0.6 nM, respectively). Haloperidol also binds to α_1- and α_2- adrenergic and histamine H_1 receptors, as well as the serotonin (5-HT) receptor subtypes 5-HT_{1D} and 5-HT_{2A} (K_ds = 17, 600, 260, 40, and 61 nM, respectively).[2] It inhibits stereotypic behavior induced by apomorphine (Item No. 16094) and amphetamine in rats (ID_{50}s = 0.532 and 0.101 µmol/kg, respectively).[3] Haloperidol also inhibits apomorphine-induced decreases in prepulse inhibition of the acoustic startle response in rats in a dose-dependent manner.[4] Formulations containing haloperidol have been used in the treatment of schizophrenia and Tourette syndrome.

References

1. Burstein, E.S., Ma, J., Wong, S., *et al. J. Pharmacol. Exp. Ther.* **315(3)**, 1278-1287 (2005).
2. Richelson, E. and Souder, T. *Life Sciences* **68(1)**, 29-39 (2000).
3. Creese, I., Burt, D.R., and Snyder, S.H. *J. Neuropsychiatry Clin. Neurosci.* **8(2)**, 223-226 (1996).
4. Swerdlow, N.R. and Geyer, M.A. *Pharmacol. Biochem. Behav.* **44(3)**, 741-744 (1993).

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