

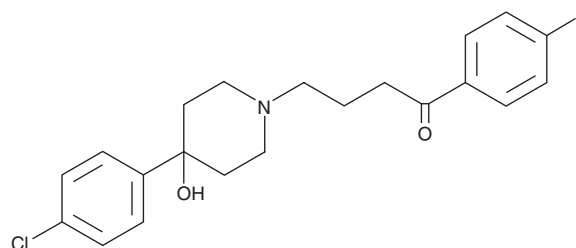
# PRODUCT INFORMATION



## Haloperidol

Item No. 12014

**CAS Registry No.:** 52-86-8  
**Formal Name:** 4-[4-(4-chlorophenyl)-4-hydroxy-1-piperidiny]-1-(4-fluorophenyl)-1-butanone  
**Synonyms:** McN-JR 1625, NSC 170973, NSC 615296, R 1625  
**MF:** C<sub>21</sub>H<sub>23</sub>ClFNO<sub>2</sub>  
**FW:** 375.9  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 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<sub>2</sub>-like receptor antagonist (K<sub>i</sub>s = 0.6, 0.2, and 22 nM, for D<sub>2</sub>, D<sub>3</sub>, and D<sub>4</sub> receptors, respectively).<sup>1</sup> It also acts as an inverse agonist at dopamine D<sub>2</sub> and D<sub>3</sub> receptors (IC<sub>50</sub>s = 0.8 and 0.6 nM, respectively). Haloperidol also binds to α<sub>1</sub>- and α<sub>2</sub>-adrenergic and histamine H<sub>1</sub> receptors, as well as the serotonin (5-HT) receptor subtypes 5-HT<sub>1D</sub> and 5-HT<sub>2A</sub> (K<sub>d</sub>s = 17, 600, 260, 40, and 61 nM, respectively).<sup>2</sup> It inhibits stereotypic behavior induced by apomorphine (Item No. 16094) and amphetamine in rats (ID<sub>50</sub>s = 0.532 and 0.101 μmol/kg, respectively).<sup>3</sup> Haloperidol also inhibits apomorphine-induced decreases in prepulse inhibition of the acoustic startle response in rats in a dose-dependent manner.<sup>4</sup> 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).

#### 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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