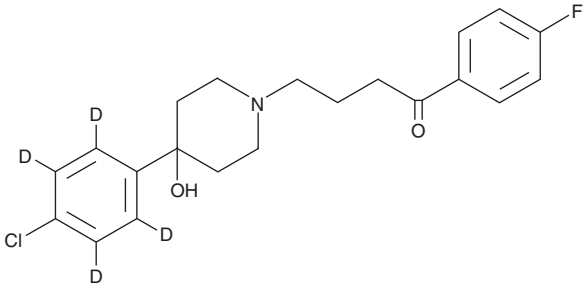
PRODUCT INFORMATION

Haloperidol-d_4

Item No. 26116

CAS Registry No.: 1189986-59-1
Formal Name: 4-(4-(4-chlorophenyl-2,3,5,6-d_4)-4-hydroxypiperidin-1-yl)-1-(4-fluorophenyl)butan-1-one
MF: $C_{21}H_{19}ClD_4FNO_2$
FW: 379.9
Chemical Purity: ≥98% (Haloperidol)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_4); ≤1% d_0
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

Haloperidol-d_4 is intended for use as an internal standard for the quantification of haloperidol (Item No. 12014) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Haloperidol-d_4 is supplied as a solid. A stock solution may be made by dissolving the haloperidol-d_4 in the solvent of choice, which should be purged with an inert gas. Haloperidol-d_4 is slightly soluble in chloroform and methanol.

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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