Haloperidol

Cat. No.: HY-14538

CAS No.: 52-86-8

Molecular Formula: $C_{21}H_{23}ClFNO_2$

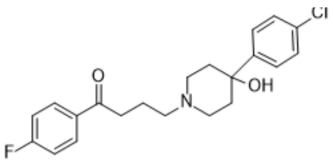
Molecular Weight: 375.86

Target: Dopamine Receptor

Pathway: GPCR/G Protein; Neuronal Signaling

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	1 year
	-20°C	6 months



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (266.06 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.6606 mL	13.3028 mL	26.6057 mL
	5 mM	0.5321 mL	2.6606 mL	5.3211 mL
	10 mM	0.2661 mL	1.3303 mL	2.6606 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 1.67 mg/mL (4.44 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 1.67 mg/mL (4.44 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.67 mg/mL (4.44 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Haloperidol is a potent dopamine D2 receptor antagonist, widely used as an antipsychotic.

IC_{50} & Target

D_2 Receptor

In Vivo

Haloperidol (1 mg) intra-arterially attenuates the dopamine-induced pancreatic secretion. Haloperidol (3 mg) completely inhibits the action of 10 μg of dopamine in the pancreas of the dogs[1]. Haloperidol (10 mg/kg) as well as chlorpromazine (CPZ, 15 mg/kg) blocks mescaline-induced altered behavior within 7 to 10 minutes when injected into the mice 45 minutes

after 50 mg/kg (2 μc) of mescaline. Haloperidol has no effect on mescaline disappearance[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Animal Administration [2]

Male albino mice of Swiss-Webster strain (33-36 g) are used, and all substances are given by i.p. injection in a volume of 0.5 mL. CPZ, haloperidoi and mescaline are all in time form of timeir imydrochlorides and the dose solutions are prepared at concentrations of 1.0, 0.66 and 3.3 mg/mL of 0.9% saline, respectively. The doses are: CPZ, 15 mg/kg; haloperidol, 10 mg/kg; mescaline, 50 mg/kg. Mice are pretreated with either CPZ or haloperidol 30 minutes before administration of mescaline. In some instances CPZ is injected 45 minutes after mescaline. Time animals are hmoused individually in a plexiglas cage and the gross behavior and locomotor activity. At selected intervals after mescaline, groups of mice are sacrificed by decapitation. Plasma is separated and stored at -20°C. The brain, liver, kidney, lung, spleen and heart are frozen on dry ice and stored at -20°C for 18 to 20 hours before they are used for assays.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cell. 2023 Nov 22;186(24):5347-5362.e24.
- Cell Host Microbe. 2023 Nov 8;31(11):1792-1803.e7.
- Environ Sci Technol. 2023 Sep 13.
- EMBO Rep. 2022 Jan 17;e53191.
- Br J Pharmacol. 2021 Apr 26.

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REFERENCES

[1]. Furuta Y, et al. Effects of enzyme inhibitors of catecholamine metabolism and of haloperidol on the pancreatic secretion induced by L-DOPA and by dopamine in dogs. Br J Pharmacol. 1973 Jan;47(1):77-84

[2]. Shah NS, et al. Effects of chlorpromazine and haloperidol on the disposition of mescaline-14C in mice. J Pharmacol Exp Ther. 1973 Aug;186(2):297-304

Caution: Product has not been fully validated for medical applications. For research use only.

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