Fluphenazine decanoate

Cat. No.: HY-B1904

CAS No.: 5002-47-1

Molecular Formula: $C_{32}H_{44}F_3N_3O_2S$

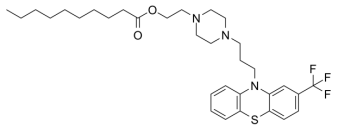
Molecular Weight: 591.77

Target: Dopamine Receptor

Pathway: GPCR/G Protein; Neuronal Signaling

Storage:

Pure form	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (211.23 mM; Need ultrasonic)
Ethanol : 50 mg/mL (84.49 mM; Need ultrasonic)

Preparing Stock Solutions

Mass / Solvent / Concentration	1 mg	5 mg	10 mg
1 mM	1.6898 mL	8.4492 mL	16.8985 mL
5 mM	0.3380 mL	1.6898 mL	3.3797 mL
10 mM	0.1690 mL	0.8449 mL	1.6898 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: ≥ 1.08 mg/mL (1.83 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.08 mg/mL (1.83 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.08 mg/mL (1.83 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Fluphenazine decanoate is a dopamine D_2 receptor inhibitor, is a long-acting phenothiazine neuroleptic. Fluphenazine can be used for schizophrenia research[1][2][3].

IC_{50} & Target

D_2 Receptor

In Vitro

Fluphenazine decanoate shows activity against T. gondii in human fibroblast cell cultures with an IC_{50} value of 1.7 mM[1].

	MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Fluphenazine decanoate (0.22 mg/kg and followed by 0.33 mg/kg; i.m.; 8 times every 3 weeks), as an antipsychotic, increases sensitivity to dopamine on monkey model following extended treatment[2]. Fluphenazine decanoate (25 mg/kg; i.m.; 6 times every 3 weeks; 24 weeks) induces mouth movements in the rat, serves as a pharmacological model of human tardive dyskinesia[3]. Fluphenazine decanoate (1, 2, 3 mg/kg/d; s.c.; 60 d) shows antifertility effects and induces hyperprolactinemia concomitant with gonadotropin suppression in adult male rat[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Cebus apella monkey[2]
Dosage:	0.22 mg/kg and followed by 0.33 mg/kg
Administration:	Intramuscular injection; 8 times per 3 weeks; 0.22 mg/kg for 63 weeks and 0.33 mg/kg for 6 weeks
Result:	Decreased the aggressiveness composite behavioral variables (CBV). Resulted stereotypic behavior induced by agonist and decreased prolactin response to AMPH.

Animal Model:	Male Sprague-Dawley rats (250 g)[3]
Dosage:	25 mg/kg
Administration:	Intramuscular injection into the hind limb; 24 weeks
Result:	Resulted in spontaneous vacuous chewing mouth movements and jaw tremor.

Animal Model:	Adult male rats[4]
Dosage:	1, 2, 3 mg/kg/d
Administration:	Subcutaneous injection between 10:00-12:00 h; 60 days
Result:	Increased serum prolactin level and suppressed serum LH and FSH levels at day 60. Increased hypothalamic tyrosine hydroxylase levels, enhanced chromatin decondensation, and resulted DNA denaturation.

REFERENCES

[1]. Goodwin DG, et al. Evaluation of five antischizophrenic agents against Toxoplasma gondii in human cell cultures. J Parasitol. 2011 Feb;97(1):148-51.

[2]. Lifshitz K, et al. Effects of dopamine agonists on Cebus apella monkeys with previous long-term exposure to fluphenazine. Biol Psychiatry. 1997 Mar 15;41(6):657-67.

[3]. Stoessl AJ, et al. Chronic neuroleptic-induced mouth movements in the rat: suppression by CCK and selective dopamine D1 and D2 receptor antagonists. Psychopharmacology (Berl). 1989;98(3):372-9.

[4]. Gill-Sharma MK, et al. Antifertility effects of fluphenazine in adult male rats. J Endocrinol Invest. 2003 Apr;26(4):316-26.

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

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