Fluphenazine

Cat. No.: HY-119980

CAS No.: 69-23-8

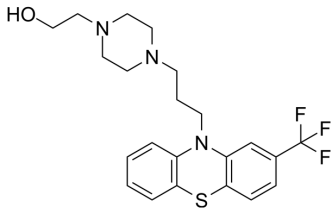
Molecular Formula: $C_{22}H_{26}F_3N_3OS$

Molecular Weight: 437.52

Target: Dopamine Receptor; Sodium Channel; SARS-CoV

Pathway: GPCR/G Protein; Neuronal Signaling; Membrane Transporter/Ion Channel; Anti-infection

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Fluphenazine is a potent, orally active phenothiazine-based dopamine receptor antagonist. Fluphenazine blocks neuronal voltage-gated sodium channels. Fluphenazine acts primarily through antagonism of postsynaptic dopamine-2 receptors in mesolimbic, nigrostriatal, and tuberoinfundibular neural pathways. Fluphenazine can antagonize Methylphenidate-induced stereotyped gnawing and inhibit climbing behaviour in mice. Fluphenazine can be used for researching psychosis and painful peripheral neuropathy associated with diabetes and has potential to inhibit SARS-CoV-2[1][2][3][4][6].

IC_{50} & Target

Dopamine receptor, Sodium channels, SARS-CoV-2[1][2]

In Vivo

Fluphenazine (1 mg/kg; IG, treated from day 6 to day 15 of gestation) causes malformations in pregnant mice[5].
Fluphenazine (0.125-1 mg/kg; IP, single dosage) antagonizes Methylphenidate-induced stereotyped gnawing; inhibits significantly climbing behaviour[6].

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

Animal Model:	Mice (injected with 60 mg/kg Methylphenidate)[6]
Dosage:	0.125, 0.25, 0.5, and 1 mg/kg
Administration:	IP, single dosage
Result:	Antagonized Methylphenidate-induced stereotyped gnawing; inhibited significantly climbing behaviour in mice at 0.0625-0.5 mg/kg, and at the dose of 1 mg/kg abolished this effect completely.

Animal Model:	Mature female Swiss-Webster mice[5]
Dosage:	1 mg/kg
Administration:	IG, treated from day 6 to day 15 of gestation
Result:	Significantly reduced fetal weight and length, increased the incidence of incomplete ossification of sternebrae and skull bones.

REFERENCES

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[3]. Davis JL, et al. Peripheral diabetic neuropathy treated with amitriptyline and fluphenazine. JAMA. 1977 Nov 21;238(21):2291-2.

[4]. Abdel-Hamid HA, et al. Teratogenic effect of diphenylhydantoin and/or fluphenazine in mice. J Appl Toxicol. 1996 May-Jun;16(3):221-5.

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[6]. Zhou X, et al. The neuroleptic drug, fluphenazine, blocks neuronal voltage-gated sodium channels. Brain Res. 2006;1106(1):72-81.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA