Flupentixol

Cat. No.: HY-15856A

CAS No.: 2709-56-0

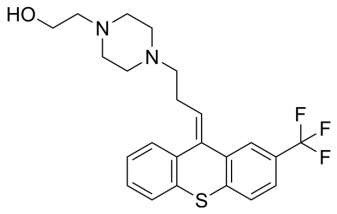
Molecular Formula: $C_{23}H_{25}F_3N_2OS$

Molecular Weight: 434.52

Target: Dopamine Receptor; PI3K; Apoptosis

Pathway: GPCR/G Protein; Neuronal Signaling; PI3K/Akt/mTOR; Apoptosis

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



BIOLOGICAL ACTIVITY

Description

Flupentixol is an orally active D_1/D_2 dopamine receptor antagonist and new PI3K inhibitor (PI3Kα IC_{50}=127 nM). Flupentixol shows anti-proliferative activity to cancer cells and induces apoptosis. Flupentixol can also be used in schizophrenia, anxiolytic and depressive research[1][2][3].

IC_{50} & Target	D_1 Receptor	D_2 Receptor	PI3Kα 127 nM (IC_{50})

In Vitro

Flupentixol (2.5-40 μM; 72 h) treatment inhibits the viability of lung cancer cells in a dose-dependent manner[3].
Flupentixol (2.5-40 μM; 24 h) induces apoptosis in lung cancer cells[3].
Flupentixol (2.5-15 μM; 24 h) inhibits p-AKT and Bcl-2 expression levels[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[3]

Cell Line:	A549, H661, SK-SEM-1, and NCAL-H520 cells
Concentration:	2.5, 5, 10, 20, or 40 μM
Incubation Time:	72 hours
Result:	Showed the IC_{50}s of 5.708 μM and 6.374 μM for A549 and H661 cells, respectively.

Apoptosis Analysis[3]

Cell Line:	A549 and H661 cells
Concentration:	5, 10, 20 and 40 μM
Incubation Time:	24 hours
Result:	Increased the percentage of cells in early apoptosis compared with the negative control in both A549 and H661 ($p< 0.05$). Induced the cleavage of PARP and caspase-3 in a dose-dependent manner.

Western Blot Analysis[3]

Cell Line:	H661 and A549 cells
Concentration:	2.5, 5, 10, and 15 μM
Incubation Time:	24 hours
Result:	Decreased AKT phosphorylation levels in a dose-dependent manner, decreased the expression levels of Bcl-2.

In Vivo

Flupentixol (intragastric injection; 40 mg/kg; once daily; 21 d) suppresses A549 xenografted tumor growth in nude mice[3].

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

Animal Model:	BALB/C nude mice injected with A549 cells[3]
Dosage:	40 mg/kg
Administration:	Intragastric injection; 40 mg/kg; once daily; 21 days
Result:	Reduced tumor volumes compared to the vehicle control ($p<0.05$), reduced tumor weights by 64.1% ($p<0.05$).

REFERENCES

[1]. Yonar D, et al. Effect of cis-(Z)-flupentixol on DPPC membranes in the presence and absence of cholesterol. Chem Phys Lipids. 2016 Jun;198:61-71.

[2]. Ruhrmann S, et al. Efficacy of flupentixol and risperidone in chronic schizophrenia with predominantly negative symptoms. Prog Neuropsychopharmacol Biol Psychiatry. 2007 Jun 30;31(5):1012-22.

[3]. Chao Dong, et al. The antipsychotic agent flupentixol is a new PI3K inhibitor and potential anticancer drug for lung cancer. Int J Biol Sci. 2019 Jun 2;15(7):1523-1532.

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