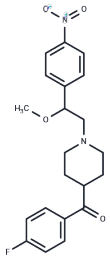
Data Sheet (Cat.No.T12009)

TargetMol

Antipsychotic agent 54

Chemical Properties



CAS No. : 666859-49-0

Formula: C21H23FN2O4

Molecular Weight: 386.42

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Antipsychotic agent 54 is a benzoylpiperidine compound that can be used in the study of central nervous system diseases such as psychosis and cognitive impairment.
Targets(IC50)	Telomerase
In vitro	Treatment of SMMC-7721 cells with Telomerase-IN-1 (20, 40, and 80 nM) for 48 hours results in significant accumulation of green fluorescence, demonstrating a decrease in mitochondrial membrane potential (MMP). At 40 nM, Telomerase-IN-1 notably enhances the expression of cytochrome c (cyt-c) and Bax, while reducing Bcl-2 levels. Our in vitro findings illustrate that Telomerase-IN-1 exhibits robust inhibitory effects on telomerase, displaying significant antiproliferative activity against SMMC-7721 cells without apparent toxicity towards human normal hepatocyte cells. Telomerase-IN-1 treatment reduces cancer cell growth in both dose- and time-dependent manners, with minimal impact on the viability of L-02 cells at 10 μM. A noteworthy increase in apoptosis is observed following 48 hours of treatment with Telomerase-IN-1 at concentrations of 20, 40, and 80 nM.
In vivo	Our in vivo studies demonstrate a significant inhibition of tumor growth in xenograft tumor models by Telomerase-IN-1. Our findings indicate that the compound triggers endoplasmic reticulum stress (ERS) via an excessive ER response (EOR), leading to the activation of hTERT expression. Subsequently, this ERS induction, intricately linked to oxidative stress and mitochondrial dysfunction, initiates apoptotic cell death and modulates downstream signaling molecules, including CHOP (CAAT/enhancer-binding protein homologous protein), as well as the mitochondrion pathway of apoptosis. As a result, cell proliferation is effectively suppressed.[1]

Solubility Information

Solubility	DMSO: 90 mg/mL (232.91 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 3.3 mg/mL (8.54 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5879 mL	12.9393 mL	25.8786 mL
5 mM	0.5176 mL	2.5879 mL	5.1757 mL
10 mM	0.2588 mL	1.2939 mL	2.5879 mL
50 mM	0.0518 mL	0.2588 mL	0.5176 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Yong-Moon Choi, et al. Preparation of 4-benzoylpiperidine derivatives for treatment of psychosis and cognition disorders. US 20040044033A1.