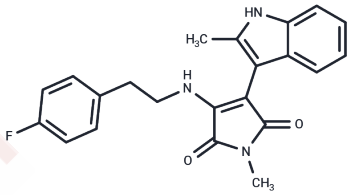
Data Sheet (Cat.No.T2261)

TargetMol

IM-12

Chemical Properties



CAS No. : 1129669-05-1

Formula: C22H20FN3O2

Molecular Weight: 377.41

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	IM-12, an effective GSK-3β inhibitor(IC50=53 nM), regulates Wnt signalling.
Targets(IC50)	GSK-3,Wnt/beta-catenin
In vivo	In human neural progenitor cells (hNPCs) with an IC50 of 3.8 μM, IM-12 inhibits GSK-3β activity and increases the concentration of β-catenin. IM-12 promotes cell proliferation in human neural progenitor cells by activating the Wnt signaling pathway.
Kinase Assay	GSK-3β activity assay: IC50 of new synthesised compound IM-12 to GSK-3β is determined by a luminometric GSK-3β activity assay. Briefly, compounds are tested in different concentrations diluted in assay buffer containing final concentrations of: 4 mM MOPS pH 7.2; 0.4 mM EDTA; 1 mM EGTA; 2.5 mM β-glycerophosphate; 4 mM MgCl2; 40 μM BSA; 0.05 mM DTT. Four microlitres of diluted compounds are added to 25 μM pGS-2 peptide substrate, 20 ng recombinant GSK-3β and 1 μM ATP to a total assay volume of 40 μl. The enzymatic reaction is stopped after 30 min of incubation at 30 °C by adding 40 μl KinaseGlo. The luminometric signal is allowed to stabilise for 10 min and the measured with a Glomax? 96 Microplate Luminometer.
Cell Research	To measure viable cells, 50-100 μL of cell suspension is analyzed using CASY technology with the appropriate program. ReNcell VM cells are seeded at a defined cell number and proliferated for 24 h. Then the medium is changed to proliferation medium with added substances at indicated concentrations. The cell number was determined every 24 h. Cells were exposed to the added drugs during the whole experiment, whereas the media is changed every 24 h.(Only for Reference)

Solubility Information

Solubility	DMSO: 65 mg/mL (172.23 mM),Sonication is recommended. Ethanol: 10 mg/mL (26.5 mM),Heating is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (5.3 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*

In vivo Formulation	*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	2.6496 mL	13.2482 mL	26.4964 mL
5 mM	0.5299 mL	2.6496 mL	5.2993 mL
10 mM	0.265 mL	1.3248 mL	2.6496 mL
50 mM	0.053 mL	0.265 mL	0.5299 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

Schmöle AC, er al. Bioorg Med Chem. 2010, 18(18), 6785-6795.