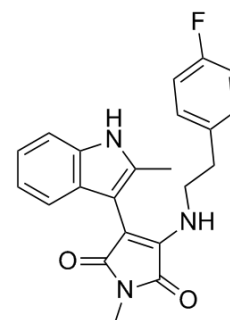


IM-12

Cat. No.:	HY-12292		
CAS No.:	1129669-05-1		
Molecular Formula:	C ₂₂ H ₂₀ FN ₃ O ₂		
Molecular Weight:	377.41		
Target:	GSK-3		
Pathway:	PI3K/Akt/mTOR; Stem Cell/Wnt		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 54.9 mg/mL (145.47 mM)
 * "≥" means soluble, but saturation unknown.

Concentration	Mass		
	1 mg	5 mg	10 mg
1 mM	2.6496 mL	13.2482 mL	26.4964 mL
5 mM	0.5299 mL	2.6496 mL	5.2993 mL
10 mM	0.2650 mL	1.3248 mL	2.6496 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: ≥ 2.5 mg/mL (6.62 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

IM-12 is an inhibitor of GSK-3β, with an IC₅₀ of 53 nM, and also enhances Wnt signalling.

IC₅₀ & Target

GSK-3β
 53 nM (IC₅₀)

In Vitro

IM-12 inhibits GSK-3β in ReNcell VM cells, with I₅₀ of 3.8 μM. IM-12 (3 μM) enhances the β-catenin amount, with no further effect at lower or higher concentration. IM-12 (3 μM) also attenuates the proliferation of ReNCell VM cells. IM-12 increases TCF-activity of ReNcell VM^[1].

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

PROTOCOL

Kinase Assay ^[1]

Cells are lysed in RIPA buffer, supplemented with protease and phosphatase inhibitors and centrifuged for 5 min at 15,000 rpm. Immunoprecipitation of GSK-3 β is performed with a specific mouse monoclonal anti GSK-3 β [G8] antibody with 5 μ g/sample for 2 h at 4°C. The bound protein is precipitated with Protein A/G-Plus agarose-beads (10 μ L beads per sample). GSK-3 β kinase activity is measured in a reaction mixture 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 μ M BSA; 0.05 mM DTT. 10 μ g/sample pGS-2 peptide substrate is used^[1].

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

Cell Assay ^[1]

To measure viable cells, 50-100 μ L 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 is determined every 24 h. Cells are exposed to the added drugs during the whole experiment, whereas the media is changed every 24 h^[1].

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

CUSTOMER VALIDATION

- J Cell Physiol. 2019 Jul;234(7):10698-10708.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Schmole AC, et al. Novel indolylmaleimide acts as GSK-3 β inhibitor in human neural progenitor cells. Bioorg Med Chem. 2010 Sep 15;18(18):6785-95.

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

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