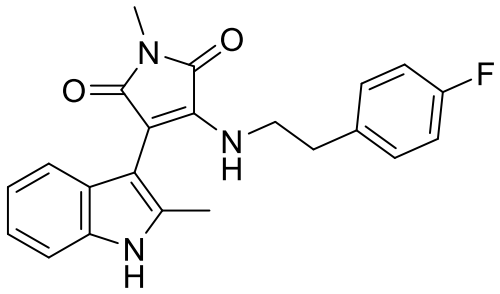
Product data sheet

MedKoo Cat#: 522433 Name: IM-12 CAS: 1129669-05-1 Chemical Formula: $C_{22}H_{20}FN_3O_2$ Exact Mass: 377.1540 Molecular Weight: 377.4194	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
IM-12 is a cell-permeable indolylmaleimide that acts as a GSK-3β inhibitor. IM-12 is potent and selective enhances canonical Wnt signalling. IM-12 inhibits GSK-3β activity and subsequently increases β-catenin concentration significantly in hNPCs. When used to treat human neural progenitor cells, IM-12 promoted neuronal differentiation resulting in an increase of neuronal cells.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	50.0	132.48
DMF:PBS (pH 7.2) (1:4)	0.2	0.53
DMSO	53.3	141.22
Ethanol	5.5	14.57

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.65 mL	13.25 mL	26.50 mL
5 mM	0.53 mL	2.65 mL	5.30 mL
10 mM	0.27 mL	1.32 mL	2.65 mL
50 mM	0.05 mL	0.27 mL	0.53 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Zhou Z, Liu X, Li Y, Li J, Deng W, Zhong J, Chen L, Li Y, Zeng X, Wang G, Zhu J, Fu B. TP53INP2 Modulates Epithelial-to-Mesenchymal Transition via the GSK-3β/β-Catenin/Snail1 Pathway in Bladder Cancer Cells. Onco Targets Ther. 2020 Sep 28;13:9587-9597. doi: 10.2147/OTT.S251830. PMID: 33061441; PMCID: PMC7532081.

In vivo study

TBD

7. Bioactivity
Biological target:

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

In vitro activity

Product data sheet

This study then determined whether GSK-3β was required for the TP53INP2 knockdown-mediated inhibition of EMT. As shown in Figure 4A–C, the administration of IM-12, an inhibitor of GSK-3β, abrogated the reduction of migration and invasion caused by TP53INP2 knockdown in the BIU87 and EJ cells. In addition, the TP53INP2 knockdown-induced decrease in non-phospho (active) β-catenin and Snail1 were blocked by IM-12 (Figure 4D). The TP53INP2 knockdown-induced EMT suppression was also abrogated by the administration of IM-12, indicating that the effect on EMT mediated by TP53INP2 knockdown was dependent on GSK-3β (Figure 4D).

Reference: Onco Targets Ther. 2020 Sep 28;13:9587-9597. https://pubmed.ncbi.nlm.nih.gov/33061441/

In vivo activity

TBD

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.