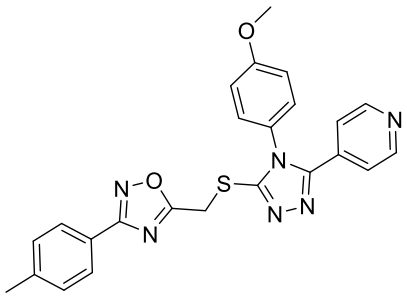
Product data sheet

MedKoo Cat#: 406500 Name: JW74 CAS: 863405-60-1 Chemical Formula: $C_{24}H_{20}N_6O_2S$ Exact Mass: 456.1368 Molecular Weight: 456.5196	
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:

JW74 is a tankyrase-specific inhibitor. JW74 affects cell cycle progression and induces apoptosis and differentiation in osteosarcoma cell lines. At the molecular level, JW74 induces stabilization of AXIN2, a key component of the β-catenin destruction complex, resulting in reduced levels of nuclear β-catenin. At the functional level, JW74 induces reduced cell growth in all three tested cell lines, in part due to a delay in cell cycle progression and in part due to an induction of caspase-3-mediated apoptosis. Furthermore, JW74 induces differentiation in U2OS cells, which under standard conditions are resistant to osteogenic differentiation. JW74 also enhances differentiation of OS cell lines, which do not harbor a differentiation block. (Cancer Med. 2014 Feb;3(1):36-46.)

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	20.0	43.81
DMF:PBS (pH 7.2) (1:5)	0.16	0.35
DMSO	38.55	84.44

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.19 mL	10.95 mL	21.90 mL
5 mM	0.44 mL	2.19 mL	4.38 mL
10 mM	0.22 mL	1.10 mL	2.19 mL
50 mM	0.04 mL	0.22 mL	0.44 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. Luo Y, Tan W, Jia W, Liu Z, Ye P, Fu Z, Lu F, Xiang W, Tang L, Yao L, Huang Q, Xiao J. The long non-coding RNA LINC01606 contributes to the metastasis and invasion of human gastric cancer and is associated with Wnt/β-catenin signaling. Int J Biochem Cell Biol. 2018 Oct;103:125-134. doi: 10.1016/j.biocel.2018.08.012. Epub 2018 Aug 22. PMID: 30142387.
2. Gao F, Wang B, Chang T, Li M, Fang W, Li ZH, Gao L. The iron pro-chelator BHAPI attenuates glutamate-induced oxidative stress via Wnt-β/catenin pathway in HT22 cells. Brain Res Bull. 2018 May;139:285-291. doi: 10.1016/j.brainresbull.2018.03.011. Epub 2018 Mar 26. PMID: 29588166.

In vivo study

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1. Waaler J, Machon O, von Kries JP, Wilson SR, Lundenes E, Wedlich D, Gradl D, Paulsen JE, Machonova O, Dembinski JL, Dinh H, Krauss S. Novel synthetic antagonists of canonical Wnt signaling inhibit colorectal cancer cell growth. Cancer Res. 2011 Jan 1;71(1):197-205. doi: 10.1158/0008-5472.CAN-10-1282. PMID: 21199802.

7. Bioactivity

Biological target:

JW74 antagonizes LiCl-induced activation of the canonical Wnt signaling with an IC_{50} of 420 nM.

In vitro activity

In addition, subsequent functional experiments showed that JW74, a specific Wnt/β-catenin signaling inhibitor, inhibited the transcription of LINC01606 and suppressed migration and invasion in GC cell lines.

Reference: Int J Biochem Cell Biol. 2018 Oct;103:125-134. https://pubmed.ncbi.nlm.nih.gov/30142387/

In vivo activity

Long-term treatment with JW74 inhibited the growth of tumor cells in both a mouse xenograft model of CRC and in Apc(Min) mice (multiple intestinal neoplasia, Min).

Reference: Cancer Res. 2011 Jan 1;71(1):197-205. https://pubmed.ncbi.nlm.nih.gov/21199802/

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.