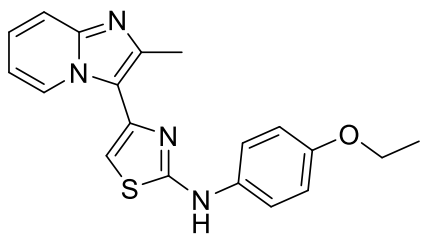
Product data sheet

MedKoo Cat#: 406989 Name: JK184 CAS: 315703-52-7 Chemical Formula: $C_{19}H_{18}N_4OS$ Exact Mass: 350.1201 Molecular Weight: 350.44	
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:
JK-184 is a potent downstream hedgehog (Hh) signaling inhibitor that prevents Gli-dependent transcriptional activity (IC50 = 30 nM). JK184 can specially inhibit Gli in the Hedgehog (Hh) pathway, which showed great promise for cancer therapeutics.

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
DMSO	60.0	171.21
Ethanol	14.0	39.95

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.85 mL	14.27 mL	28.54 mL
5 mM	0.57 mL	2.85 mL	5.71 mL
10 mM	0.29 mL	1.43 mL	2.85 mL
50 mM	0.06 mL	0.29 mL	0.57 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. Xi X, He T. Inhibition of JK184-Induced Cytoprotective Autophagy Potentiates JK184 Antitumor Effects in Breast Cancer. J Oncol. 2020 Jun 2;2020:1657896. doi: 10.1155/2020/1657896. PMID: 32565796; PMCID: PMC7288248.
2. Oladapo HO, Tarpley M, Sauer SJ, Addo KA, Ingram SM, Strepay D, Ehe BK, Chdid L, Trinkler M, Roques JR, Darr DB, Fleming JM, Devi GR, Williams KP. Pharmacological targeting of GLI1 inhibits proliferation, tumor emboli formation and in vivo tumor growth of inflammatory breast cancer cells. Cancer Lett. 2017 Dec 28;411:136-149. doi: 10.1016/j.canlet.2017.09.033. Epub 2017 Sep 28. PMID: 28965853; PMCID: PMC5720365.

In vivo study

1. Zhang N, Liu S, Wang N, Deng S, Song L, Wu Q, Liu L, Su W, Wei Y, Xie Y, Gong C. Biodegradable polymeric micelles encapsulated JK184 suppress tumor growth through inhibiting Hedgehog signaling pathway. Nanoscale. 2015 Feb 14;7(6):2609-24. doi: 10.1039/c4nr06300g. PMID: 25581613.

7. Bioactivity
Biological target:

JK184 is a potent Hedgehog (Hh) pathway inhibitor with IC50 of 30 nM in mammalian cells.

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In vitro activity

As shown in Figures 1(a) and S1A, B, the cell growth of all examined breast cancer cells was inhibited by JK184 in 24 hours, while MCF-10A cells showed higher tolerance to JK184. Additionally, EdU labeling (Figure 1(b)) and colony formation assay (Figure 1(c)) revealed that JK184 treatment resulted in marked proliferation inhibition in BCa cells. Taken together, these data reveal that JK184 shows a significant antitumor effect in BCa cells.

Reference: J Oncol. 2020 Jun 2;2020:1657896. https://pubmed.ncbi.nlm.nih.gov/32565796/

In vivo activity

In addition, JK184 micelles exerted a sustained in vitro release behavior and had a stronger inhibitory effect on proliferation, migration and invasion of HUVECs than free JK184. Furthermore, JK184 micelles had stronger tumor growth inhibiting effects in subcutaneous Panc-1 and BxPC-3 tumor models.

Reference: Nanoscale. 2015 Feb 14;7(6):2609-24. https://pubmed.ncbi.nlm.nih.gov/25581613/

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.