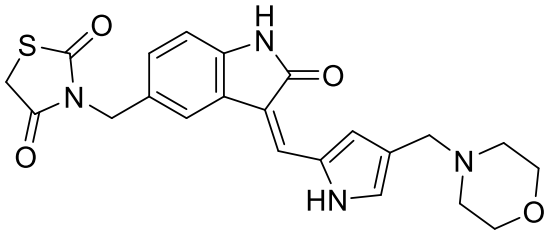
Product data sheet

MedKoo Cat#: 206484 Name: S-49076 CAS#: 1265965-22-7 Chemical Formula: $C_{22}H_{22}N_4O_4S$ Exact Mass: 438.1362 Molecular Weight: 438.50	
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:
S-49076 is a novel, potent inhibitor of MET, AXL/MER, and FGFR1/2/3. A phase I study with S-49076 is currently underway in patients with advanced solid tumors.

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	87	198.40

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.28 mL	11.40 mL	22.81 mL
5 mM	0.46 mL	2.28 mL	4.56 mL
10 mM	0.23 mL	1.14 mL	2.28 mL
50 mM	0.05 mL	0.23 mL	0.46 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. Clémenson C, Chargari C, Liu W, Mondini M, Ferté C, Burbridge MF, Cattan V, Jacquet-Bescond A, Deutsch E. The MET/AXL/FGFR Inhibitor S49076 Impairs Aurora B Activity and Improves the Antitumor Efficacy of Radiotherapy. Mol Cancer Ther. 2017 Oct;16(10):2107-2119. doi: 10.1158/1535-7163.MCT-17-0112. Epub 2017 Jun 15. PMID: 28619752.
2. Burbridge MF, Bossard CJ, Saunier C, Fejes I, Bruno A, Léonce S, Ferry G, Da Violante G, Bouzom F, Cattan V, Jacquet-Bescond A, Comoglio PM, Lockhart BP, Boutin JA, Cordi A, Ortuno JC, Pierré A, Hickman JA, Cruzalegui FH, Depil S. S49076 is a novel kinase inhibitor of MET, AXL, and FGFR with strong preclinical activity alone and in association with bevacizumab. Mol Cancer Ther. 2013 Sep;12(9):1749-62. doi: 10.1158/1535-7163.MCT-13-0075. Epub 2013 Jun 26. PMID: 23804704.

In vivo study

1. Tosca EM, Gauderat G, Fouliard S, Burbridge M, Chenel M, Magni P. Modeling restoration of gefitinib efficacy by co-administration of MET inhibitors in an EGFR inhibitor-resistant NSCLC xenograft model: A tumor-in-host DEB-based approach. CPT Pharmacometrics Syst Pharmacol. 2021 Nov;10(11):1396-1411. doi: 10.1002/psp4.12710. Epub 2021 Oct 28. PMID: 34708556; PMCID: PMC8592518.
2. Rodon J, Postel-Vinay S, Hollebecque A, Nuciforo P, Azaro A, Cattan V, Marfai L, Sudey I, Brendel K, Delmas A, Malasse S, Soria JC. First-in-human phase I study of oral S49076, a unique MET/AXL/FGFR inhibitor, in advanced solid tumours. Eur J Cancer. 2017 Aug;81:142-150. doi: 10.1016/j.ejca.2017.05.007. PMID: 28624695.

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7. Bioactivity

Biological target:

S-49076 is a potent inhibitor of Met (c-Met), AXL/MER, and FGFR1/2/3 with IC50 values below 20 nmol/L and inhibits downstream signaling in vitro and in vivo.

In vitro activity

This study showed that S-49076 exerts its cytotoxic activity at low doses on MET-dependent cells through MET inhibition. S-49076 improved the antitumor efficacy of radiotherapy in both MET-dependent and MET-independent cell lines in vitro. This study demonstrated that S-49076 has dual antitumor activity and can be used in combination with radiotherapy for the treatment of both MET-dependent and MET-independent tumors.

Reference: Mol Cancer Ther. 2017 Oct;16(10):2107-2119. https://pubmed.ncbi.nlm.nih.gov/28619752/

In vivo activity

S-49076 demonstrated a tolerable safety profile with limited single-agent activity in patients with advanced solid tumors. 81.4% patients had drug-related adverse effects, 93% of which were grade I-II and 3% led to drug discontinuation. These results are encouraging for S-49076 in combination cancer therapies.

Reference: Eur J Cancer. 2017 Aug;81:142-150. https://pubmed.ncbi.nlm.nih.gov/28624695/

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.