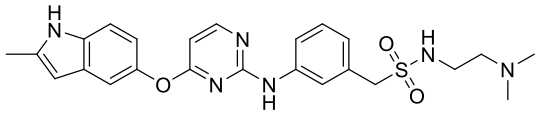
Product data sheet

MedKoo Cat#: 206205 Name: Sulfatinib CAS#: 1308672-74-3 Chemical Formula: $C_{24}H_{28}N_6O_3S$ Exact Mass: 480.1944 Molecular Weight: 480.59	
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:

Sulfatinib, also known as surufatinib, is an orally bioavailable, small molecule inhibitor of vascular endothelial growth factor receptors (VEGFR) 1, 2, and 3, and the fibroblast growth factor receptor type 1 (FGFR1), with potential antineoplastic and anti-angiogenic activities. Upon oral administration, sulfatinib binds to and inhibits VEGFRs and FGFR1 thereby inhibiting VEGFR- and FGFR1-mediated signal transduction pathways. This leads to a reduction of angiogenesis and tumor cell proliferation in VEGFR/FGFR1-overexpressing tumor cells. Expression of VEGFRs and FGFR1 may be upregulated in a variety of tumor cell types.

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	98.0	203.92

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.08 mL	10.40 mL	20.81 mL
5 mM	0.42 mL	2.08 mL	4.16 mL
10 mM	0.21 mL	1.04 mL	2.08 mL
50 mM	0.04 mL	0.21 mL	0.42 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. Liao S, Li J, Gao S, Han Y, Han X, Wu Y, Bi J, Xu M, Bi W. Sulfatinib, a novel multi-targeted tyrosine kinase inhibitor of FGFR1, CSF1R, and VEGFR1-3, suppresses osteosarcoma proliferation and invasion via dual role in tumor cells and tumor microenvironment. Front Oncol. 2023 Jun 8;13:1158857. doi: 10.3389/fonc.2023.1158857. PMID: 37361567; PMCID: PMC10286821.
2. Carra S, Gaudenzi G, Dicitore A, Cantone MC, Plebani A, Saronni D, Zappavigna S, Caraglia M, Candeo A, Bassi A, Persani L, Vitale G. Modeling Lung Carcinoids with Zebrafish Tumor Xenograft. Int J Mol Sci. 2022 Jul 23;23(15):8126. doi: 10.3390/ijms23158126. PMID: 35897702; PMCID: PMC9330857.

In vivo study

1. Cai T, Cheng Y, Du Y, Tan P, Li T, Chen Y, Gao L, Fu W. Efficacy and safety of surufatinib in the treatment of advanced solid tumors: a systematic evaluation and meta-analysis. Oncol Lett. 2023 May 10;25(6):273. doi: 10.3892/ol.2023.13859. PMID: 37216159; PMCID: PMC10193379.

2. Xu JM, Wang Y, Chen YL, Jia R, Li J, Gong JF, Li J, Qi C, Hua Y, Tan CR, Wang J, Li K, Sai Y, Zhou F, Ren YX, Qing WG, Jia H, Su WG, Shen L. Sulfatinib, a novel kinase inhibitor, in patients with advanced solid tumors: results from a phase I study. Oncotarget. 2017 Jun 27;8(26):42076-42086. doi: 10.18632/oncotarget.14942. PMID: 28159938; PMCID: PMC5522050.

7. Bioactivity

Biological target:

Sulfatinib is a tyrosine kinase inhibitor against VEGFR1, VEGFR2, VEGFR3, FGFR1 and CSF1R with IC50s of 2 nM, 24 nM, 1 nM, 15 nM and 4 nM, respectively.

In vitro activity

Sulfatinib can inhibit the proliferation, migration, and invasion of osteosarcoma by simultaneously and systematically reverse immunosuppression to immune activation status. Sulfatinib suppressed OS cell migration and invasion by inhibiting EMT by blocking the secretion of bFGF in an autocrine manner. Sulfatinib can suppress OS by modulation of the TME by inhibiting M2 polarization of macrophages.

Reference: Front Oncol. 2023 Jun 8;13:1158857. https://pubmed.ncbi.nlm.nih.gov/37361567/

In vivo activity

Sulfatinib was characterized by a high disease control rate and a low disease progression rate, indicating that it could exert a good therapeutic effect on solid tumors. Additionally, sulfatinib showed a lower relative risk for adverse effects. The disease control rate of sulfatinib in solid tumors was 86% and the objective response rate was 16%, while the progressive disease rate was only 9%. Among the adverse events, the incidence of increased levels of (AST) and (ALT) were 24% and 33%, respectively.

Reference: Oncol Lett. 2023 May 10;25(6):273. https://pubmed.ncbi.nlm.nih.gov/37216159/

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.