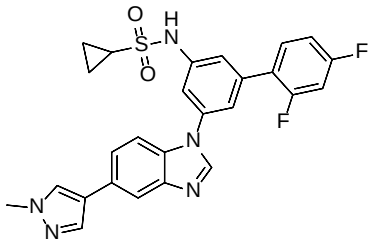
Product data sheet

MedKoo Cat#: 206569 Name: ODM-203 CAS: 1430723-35-5 Chemical Formula: $C_{26}H_{21}F_2N_5O_2S$ Exact Mass: 505.1384 Molecular Weight: 505.5438	
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:

ODM-203 is an orally available inhibitor of the human vascular endothelial growth factor receptors (VEGFRs) and fibroblast growth factor receptors (FGFRs), with potential antiangiogenic and antineoplastic activities. VEGFR/FGFR inhibitor ODM-203 inhibits both VEGFRs and FGFRs, which may result in the inhibition of VEGFR- and FGFR-mediated signaling. This leads to an inhibition of angiogenesis and cell proliferation in tumor cells overexpressing VEGFR and/or FGFR. Both VEGFRs and FGFRs belong to the superfamily of receptor tyrosine kinases and are upregulated in various 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
DMF	2.0	3.96
DMSO	58.89	116.49
DMSO:PBS (pH 7.2) (1:3)	0.25	0.49

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.98 mL	9.89 mL	19.78 mL
5 mM	0.40 mL	1.98 mL	3.96 mL
10 mM	0.20 mL	0.99 mL	1.98 mL
50 mM	0.04 mL	0.20 mL	0.40 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

Holmström TH, Moilanen AM, Ikonen T, Björkman ML, Linnanen T, Wohlfahrt G, Karlsson S, Oksala R, Korjamo T, Samajdar S, Rajagopalan S, Chelur S, Narayanan K, Ramachandra RK, Mani J, Nair R, Gowda N, Anthony T, Dhodheri S, Mukherjee S, Ujjinamatada RK, Srinivas N, Ramachandra M, Kallio PJ. ODM-203, a Selective Inhibitor of FGFR and VEGFR, Shows Strong Antitumor Activity, and Induces Antitumor Immunity. Mol Cancer Ther. 2019 Jan;18(1):28-38. doi: 10.1158/1535-7163.MCT-18-0204. Epub 2018 Oct 9. PMID: 30301864.

In vivo study

Holmström TH, Moilanen AM, Ikonen T, Björkman ML, Linnanen T, Wohlfahrt G, Karlsson S, Oksala R, Korjamo T, Samajdar S, Rajagopalan S, Chelur S, Narayanan K, Ramachandra RK, Mani J, Nair R, Gowda N, Anthony T, Dhodheri S, Mukherjee S, Ujjinamatada RK, Srinivas N, Ramachandra M, Kallio PJ. ODM-203, a Selective Inhibitor of FGFR and VEGFR, Shows Strong

Product data sheet

Antitumor Activity, and Induces Antitumor Immunity. Mol Cancer Ther. 2019 Jan;18(1):28-38. doi: 10.1158/1535-7163.MCT-18-0204. Epub 2018 Oct 9. PMID: 30301864.

7. Bioactivity

Biological target:

ODM-203 is an orally active and selective FGFR/VEGFR inhibitor with IC_{50} values of 6, 11, 16, 5, 9, 26 and 35 nM for FGFR3/1/2 and VEGFR3/2/1/4.

In vitro activity

This report shows that ODM-203 inhibits FGFR and VEGFR family kinases selectively and with equal potency in the low nanomolar range (IC50 6-35 nmol/L) in biochemical assays. In cellular assays, ODM-203 inhibits VEGFR-induced tube formation (IC50 33 nmol/L) with similar potency as it inhibits proliferation in FGFR-dependent cell lines (IC50 50-150 nmol/L).

Reference: Mol Cancer Ther. 2019 Jan;18(1):28-38. https://pubmed.ncbi.nlm.nih.gov/30301864/

In vivo activity

In vivo, ODM-203 shows strong antitumor activity in both FGFR-dependent xenograft models and in an angiogenic xenograft model at similar well-tolerated doses. In addition, ODM-203 inhibits metastatic tumor growth in a highly angiogenesis-dependent kidney capsule syngenic model. Interestingly, potent antitumor activity in the subcutaneous syngenic model correlated well with immune modulation in the tumor microenvironment as indicated by marked decrease in the expression of immune check points PD-1 and PD-L1 on CD8 T cells and NK cells, and increased activation of CD8 T cells.

Reference: Mol Cancer Ther. 2019 Jan;18(1):28-38. https://pubmed.ncbi.nlm.nih.gov/30301864/