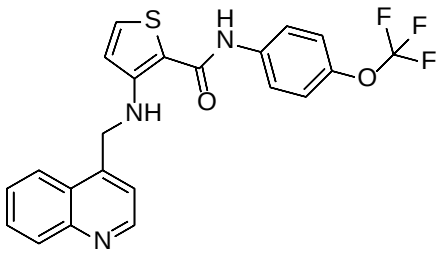
Product data sheet

MedKoo Cat#: 202100 Name: OSI-930 CAS: 728033-96-3 Chemical Formula: $C_{22}H_{16}F_3N_3O_2S$ Exact Mass: 443.0915 Molecular Weight: 443.4442	
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:
OSI-930 is a selective thiophene-derived tyrosine kinase inhibitor with potential antineoplastic activity. Tyrosine kinase inhibitor OSI-930 inhibits stem cell factor receptor (c-Kit) and the vascular endothelial growth factor receptor 2 (VEGFR2), which may result in the inhibition of both tumor cell proliferation and tumor angiogenesis. Both c-Kit and VEGFR2 are overexpressed in a variety of cancers. Check for active clinical trials or closed clinical trials using this agent. (NCI Thesaurus).

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	30.0	67.65
DMSO	56.33	127.04
DMSO:PBS (pH 7.2) (1:1)	0.33	0.74
Ethanol	3.0	6.77

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	2.26 mL	11.28 mL	22.55 mL
5 mM	0.45 mL	2.26 mL	4.51 mL
10 mM	0.23 mL	1.13 mL	2.26 mL
50 mM	0.05 mL	0.23 mL	0.45 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. Lin HL, Zhang H, Medower C, Hollenberg PF, Johnson WW. Inactivation of cytochrome P450 (P450) 3A4 but not P450 3A5 by OSI-930, a thiophene-containing anticancer drug. Drug Metab Dispos. 2011 Feb;39(2):345-50. doi: 10.1124/dmd.110.034074. Epub 2010 Nov 10. PMID: 21068193; PMCID: PMC3033695.

In vivo study

1. Sugita Y, Takada S, Tanigaki K, Muraki K, Uemura M, Hojo M, Miyamoto S. Inhibition of VEGF receptors induces pituitary apoplexy: An experimental study in mice. PLoS One. 2023 Mar 16;18(3):e0279634. doi: 10.1371/journal.pone.0279634. PMID: 36928058; PMCID: PMC10019612.
2. Garton AJ, Crew AP, Franklin M, Cooke AR, Wynne GM, Castaldo L, Kahler J, Winski SL, Franks A, Brown EN, Bittner MA, Keily JF, Briner P, Hidden C, Srebernak MC, Pirrit C, O'Connor M, Chan A, Vulevic B, Henninger D, Hart K, Sennello R, Li AH, Zhang T, Richardson F, Emerson DL, Castelhano AL, Arnold LD, Gibson NW. OSI-930: a novel selective inhibitor of Kit and kinase

insert domain receptor tyrosine kinases with antitumor activity in mouse xenograft models. Cancer Res. 2006 Jan 15;66(2):1015-24. doi: 10.1158/0008-5472.CAN-05-2873. PMID: 16424037.

7. Bioactivity

Biological target:

OSI-930 is an orally selective inhibitor of Kit, KDR and CSF-1R (c-Fms) with IC_{50}s of 80 nM, 9 nM and 15 nM.

In vitro activity

Results showed that OSI-930 inactivated purified, recombinant cytochrome P450 (P450) 3A4 in the reconstituted system in a mechanism-based manner. The inactivation of 3A4 by OSI-930 was time- and concentration-dependent. Modeling studies on the binding of OSI-930 to the active site of the P450 3A4 indicated that OSI-930 would be oriented properly in the active site for oxidation of the thiophene sulfur to give the sulfoxide, which has previously been shown to be a significant metabolite of OSI-930.

Reference: Drug Metab Dispos. 2011 Feb;39(2):345-50. https://pubmed.ncbi.nlm.nih.gov/21068193/

In vivo activity

The data suggest that antitumor activity of OSI-930 in mouse xenograft models is observed at dose levels that maintain a significant level of inhibition of the molecular targets of OSI-930 for a prolonged period. Furthermore, pharmacokinetic evaluation of the plasma exposure levels of OSI-930 at these effective dose levels provides an estimate of the target plasma concentrations that may be required to achieve prolonged inhibition of Kit and KDR in humans and which would therefore be expected to yield a therapeutic benefit in future clinical evaluations of OSI-930.

Reference: Cancer Res. 2006 Jan 15;66(2):1015-24. https://pubmed.ncbi.nlm.nih.gov/16424037/