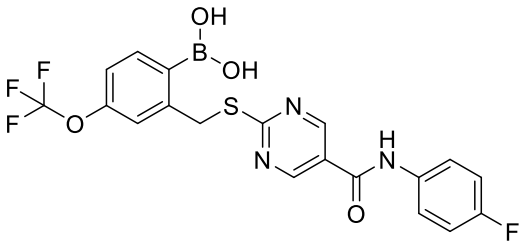
Product data sheet

MedKoo Cat#: 206806 Name: SX-682 CAS#: 1648843-04-2 Chemical Formula: $C_{19}H_{14}BF_4N3O_4S$ Exact Mass: 467.0734 Molecular Weight: 467.2016	
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:
SX-682 is a potent and selective Cxcr1/2 inhibitor potentially useful for castration-resistant prostate cancer. CXCR1 and CXCR2 chemokine receptors and their ligands (CXCL1/2/3/7/8) play an important role in tumor progression.

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	171.50	367.08

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.14 mL	10.70 mL	21.40 mL
5 mM	0.43 mL	2.14 mL	4.28 mL
10 mM	0.21 mL	1.07 mL	2.14 mL
50 mM	0.04 mL	0.21 mL	0.43 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

TBD

In vivo study

1. Greene S, Robbins Y, Mydlarz WK, Huynh AP, Schmitt NC, Friedman J, Horn LA, Palena C, Schlom J, Maeda DY, Zebala JA, Clavijo PE, Allen C. Inhibition of MDSC Trafficking with SX-682, a CXCR1/2 Inhibitor, Enhances NK-Cell Immunotherapy in Head and Neck Cancer Models. Clin Cancer Res. 2020 Mar 15;26(6):1420-1431. doi: 10.1158/1078-0432.CCR-19-2625. Epub 2019 Dec 17. PMID: 31848188; PMCID: PMC7073293.
2. Sun L, Clavijo PE, Robbins Y, Patel P, Friedman J, Greene S, Das R, Silvin C, Van Waes C, Horn LA, Schlom J, Palena C, Maeda D, Zebala J, Allen CT. Inhibiting myeloid-derived suppressor cell trafficking enhances T cell immunotherapy. JCI Insight. 2019 Apr 4;4(7):e126853. doi: 10.1172/jci.insight.126853. PMID: 30944253; PMCID: PMC6483637.

7. Bioactivity
Biological target:

SX-682 is a potent allosteric inhibitor of CXCR1 and CXCR2 that can block tumor myeloid-derived suppressor cells (MDSCs) recruitment and enhance T cell activation and antitumor immunity.

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In vitro activity

TBD

In vivo activity

As SX-682 enhanced tumor infiltration of endogenous T cells in wild-type mice, it was hypothesized that inhibition of tumor PMN-MDSC infiltration could enhance tumor infiltration of adoptively transferred engineered T cells. RAG1-deficient mice bearing MOC1 or LLC tumors engineered to express OVA257–264 (SIINFEKL) were treated with adoptive transfer of ex vivo–expanded OT-I cytotoxic T lymphocytes (CTLs) with or without SX-682. Following SX-682 treatment alone, tumor accumulation of PMN-MDSCs was abrogated in both models. This reduction in PMN-MDSCs in RAG1-deficient mice correlated with enhanced tumor infiltration of adoptively transferred T cells administered 4 days after initiation of SX-682 treatment. To investigate whether this increase in TIL infiltration was biologically relevant, RAG1-deficient mice bearing SIINFEKL-positive MOC1 or LLC tumors were treated with a combination of SX-682 and OT-I adoptive cell transfer. Treatment with SX-682 chow alone induced no tumor growth inhibition, and treatment with OT-I adoptive cell transfer alone induced some degree of growth delay in both models. These data suggested that, in addition to enhancing antitumor efficacy of PD-axis immune checkpoint blockade, abrogation of PMN-MDSC tumor infiltration with SX-682 can enhance the therapeutic efficacy of adoptively transferred T cells.

Reference: JCI Insight. 2019 Apr 4;4(7):e126853. https://pubmed.ncbi.nlm.nih.gov/30944253/