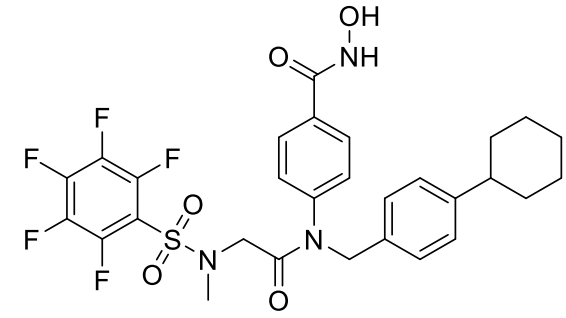
Product data sheet

MedKoo Cat#: 527860 Name: SH5-07 CAS#: 1456632-41-9 Chemical Formula: $C_{29}H_{28}F_5N_3O_5S$ Exact Mass: 625.167 Molecular Weight: 625.61	
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:
SH5-07 is a novel Stat3 inhibitor, suppressing human glioma and breast cancer phenotypes in vitro and in vivo.

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	3	4.80
DMSO	3	4.80
Ethanol	3	4.80

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	1.64 mL	8.19 mL	16.38 mL
5 mM	0.33 mL	1.64 mL	3.28 mL
10 mM	0.16 mL	0.82 mL	1.64 mL
50 mM	0.03 mL	0.16 mL	0.33 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. Ali AM, Gómez-Biagi RF, Rosa DA, Lai PS, Heaton WL, Park JS, Eiring AM, Vellore NA, de Araujo ED, Ball DP, Shouksmith AE, Patel AB, Deininger MW, O'Hare T, Gunning PT. Disarming an Electrophilic Warhead: Retaining Potency in Tyrosine Kinase Inhibitor (TKI)-Resistant CML Lines While Circumventing Pharmacokinetic Liabilities. ChemMedChem. 2016 Apr 19;11(8):850-61. doi: 10.1002/cmdc.201600021. Epub 2016 Mar 30. PMID: 27028877; PMCID: PMC4963206.

In vivo study

1. Yue P, Lopez-Tapia F, Paladino D, Li Y, Chen CH, Namanja AT, Hilliard T, Chen Y, Tius MA, Turkson J. Hydroxamic Acid and Benzoic Acid-Based STAT3 Inhibitors Suppress Human Glioma and Breast Cancer Phenotypes In Vitro and In Vivo. Cancer Res. 2016 Feb 1;76(3):652-63. doi: 10.1158/0008-5472.CAN-14-3558. Epub 2015 Jun 18. PMID: 26088127; PMCID: PMC4684502.

7. Bioactivity
Biological target:

SH5-07 is a STAT3 inhibitor (Ki = 10.46 μM). It is selective for STAT3 over STAT1 (Ki = >100 μM). SH5-07 prevents constitutively active STAT3 DNA binding in NIH3T3 fibroblast nuclear extracts (IC50 = 3.9 μM). It is cytotoxic to AR230 and

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imatinib-resistant AR230 chronic myeloid leukemia (CML) cells (IC50s = 8.1 and 7 μM, respectively) and a variety of glioblastoma cancer stem cells (CSCs; IC50s = 0.195-1.12 μM).

In vitro activity

Diverse types of drugs had divergent effects on TgGST2, among which treatment with antifungal agents, anticarcinogens (one being SH5-07) and coccidiostats made the localization of TgGST2 appear in different forms, including dots, circles and rod shaped.

Reference: Parasit Vectors. 2022 Dec 12;15(1):461. https://pubmed.ncbi.nlm.nih.gov/36510329/

In vivo activity

The results of this study offer preclinical proof of concept for SH5-07 and SH4-54 as candidates for further development as cancer therapeutics. In mouse xenograft models of glioma and breast cancer, administration of SH5-07 or SH4-54 effectively inhibited tumor growth.

Reference: Cancer Res. 2016 Feb 1;76(3):652-63. https://pubmed.ncbi.nlm.nih.gov/26088127/