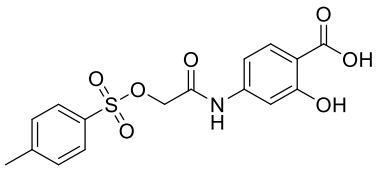
Product data sheet

MedKoo Cat#: 202541 Name: S3I-201 CAS#: 501919-59-1 Chemical Formula: $C_{16}H_{15}NO_7S$ Exact Mass: 365.05692 Molecular Weight: 365.36	
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:
S3I-201, also known as NSC 74859, is a cell-permeable Stat3 inhibitor that binds to the Stat3-SH2 domain, prevents Stat3 phosphorylation/activation, dimerization, and DNA-binding.

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	12.5	34.2
DMSO	16.0	43.8

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.74 mL	13.69 mL	27.37 mL
5 mM	0.55 mL	2.74 mL	5.47 mL
10 mM	0.27 mL	1.37 mL	2.74 mL
50 mM	0.05 mL	0.27 mL	0.55 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. Yuan C, Ni L, Wu X. Activin A activation drives renal fibrosis through the STAT3 signaling pathway. Int J Biochem Cell Biol. 2021 May;134:105950. doi: 10.1016/j.biocel.2021.105950. Epub 2021 Feb 17. PMID: 33609746.
2. Cheng Z, Lei Z, Yang P, Si A, Xiang D, Tang X, Guo G, Zhou J, Hüser N. Exosome-transmitted p120-catenin suppresses hepatocellular carcinoma progression via STAT3 pathways. Mol Carcinog. 2019 Aug;58(8):1389-1399. doi: 10.1002/mc.23022. Epub 2019 Apr 17. PMID: 30997702.

In vivo study

1. Ahmad SF, Ansari MA, Nadeem A, Bakheet SA, Al-Mazroua HA, Alomar HA, Al-Hamamah MA, Attia SM. S3I-201, a selective stat3 inhibitor, ameliorates clinical symptoms in a mouse model of experimental autoimmune encephalomyelitis through the regulation of multiple intracellular signalling in Th1, Th17, and treg cells. Mult Scler Relat Disord. 2023 May;73:104658. doi: 10.1016/j.msard.2023.104658. Epub 2023 Mar 23. PMID: 36989705.
2. Du Y, Zhang W, Liu S, Feng X, Gao F, Liu Q. S3I-201 ameliorates tubulointerstitial lesion of the kidneys in MRL/lpr mice. Biochem Biophys Res Commun. 2018 Sep 3;503(1):177-180. doi: 10.1016/j.bbrc.2018.05.207. Epub 2018 Jun 11. PMID: 29885836.

7. Bioactivity

Product data sheet

Biological target:

S3I-201 is a Stat3 inhibitor with an IC50 of 86 μM.

In vitro activity

S3I-201 has the potential to mitigate fibrosis in a cellular context, making it relevant for studying conditions like lupus nephritis. S3I-201 was used in cell culture experiments to suppress the activation of STAT3, which had therapeutic effects by attenuating fibrotic changes in cultured HK-2 cells. Specifically, it reduced the expression of fibrosis-related proteins while improving the expression of E-cadherin.

Reference: Int J Biochem Cell Biol. 2021 May;134:105950. https://pubmed.ncbi.nlm.nih.gov/33609746/

In vivo activity

This study investigated the role of S3I-201 in experimental autoimmune encephalomyelitis (EAE), a model of MS. The severity of clinical scores decreased in S3I-201-treated EAE mice compared to vehicle-treated EAE mice. S3I-201 may have novel therapeutic potential against MS.

Reference: Mult Scler Relat Disord. 2023 May;73:104658. https://pubmed.ncbi.nlm.nih.gov/36989705/

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.