

Product data sheet



MedKoo Cat#: 562264 Name: Stafib-1 CAS#: 1688703-26-5 Chemical Formula: C ₂₆ H ₂₄ N ₂ O ₁₁ P ₂ Exact Mass: 602.0855 Molecular Weight: 602.42	
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:

Stafib-1 is the first small molecule inhibitor of the STAT5b SH2 domain (K_i = 44 nM) with more than 50-fold selectivity over STAT5a.

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	100	166.00

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.66 mL	8.30 mL	16.60 mL
5 mM	0.33 mL	1.66 mL	3.32 mL
10 mM	0.17 mL	0.83 mL	1.66 mL
50 mM	0.03 mL	0.17 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

- Elumalai N, Berg A, Rubner S, Blechschmidt L, Song C, Natarajan K, Matysik J, Berg T. Rational development of Stafib-2: a selective, nanomolar inhibitor of the transcription factor STAT5b. *Sci Rep.* 2017 Apr 11;7(1):819. doi: 10.1038/s41598-017-00920-3. PMID: 28400581; PMCID: PMC5429769.
- Elumalai N, Berg A, Natarajan K, Scharow A, Berg T. Nanomolar inhibitors of the transcription factor STAT5b with high selectivity over STAT5a. *Angew Chem Int Ed Engl.* 2015 Apr 13;54(16):4758-63. doi: 10.1002/anie.201410672. Epub 2015 Feb 20. PMID: 25702814; PMCID: PMC4471549.

In vivo study

To be determined

7. Bioactivity

Biological target:

Stafib-1 is the first selective inhibitor of the STAT5b SH2 domain, with a K_i of 44 nM and an IC₅₀ of 154 nM.

In vitro activity.

Stafib-1 provides the first demonstration that naturally occurring SH2 domains with more than 90% sequence identity can be

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selectively targeted with small organic molecules. Stafib-1 inhibited the STAT5b SH2 domain ($K(i)=44$ nM) with more than 50-fold selectivity over STAT5a. A prodrug of Stafib-1 was shown to inhibit STAT5b with high selectivity over STAT5a in tumor cells.

Reference: Angew Chem Int Ed Engl. 2015 Apr 13;54(16):4758-63. <https://pubmed.ncbi.nlm.nih.gov/25702814/>

In vivo activity

To be determined

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.