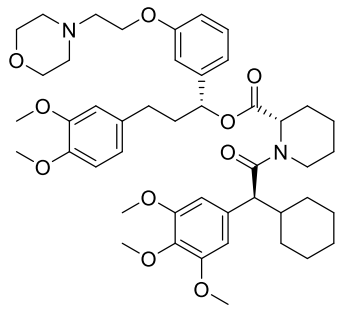
Product data sheet

MedKoo Cat#: 562643 Name: SAFit2 CAS#: 1643125-33-0 Chemical Formula: $C_{46}H_{62}N_2O_{10}$ Exact Mass: 802.4404 Molecular Weight: 803.01	
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:
SAFit2 is a selective inhibitor of the FK506-binding protein 51 (FKBP51).

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	124.53

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.25 mL	6.23 mL	12.45 mL
5 mM	0.25 mL	1.25 mL	2.49 mL
10 mM	0.12 mL	0.62 mL	1.25 mL
50 mM	0.02 mL	0.12 mL	0.25 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. Liu N, Li R, Cao J, Song X, Ma W, Liu T, Wang L, Zou J, Zhang B, Liu Z, Liang R, Zheng R, Wang S. The inhibition of FKBP5 protects β-cell survival under inflammation stress via AKT/FOXO1 signaling. Cell Death Discov. 2023 Jul 14;9(1):247. doi: 10.1038/s41420-023-01506-x. PMID: 37452039; PMCID: PMC10349081.

In vivo study

1. Wedel S, Hahnefeld L, Schreiber Y, Namendorf C, Heymann T, Uhr M, Schmidt MV, de Bruin N, Hausch F, Thomas D, Geisslinger G, Sisignano M. SAFit2 ameliorates paclitaxel-induced neuropathic pain by reducing spinal gliosis and elevating pro-resolving lipid mediators. J Neuroinflammation. 2023 Jun 24;20(1):149. doi: 10.1186/s12974-023-02835-5. PMID: 37355700; PMCID: PMC10290418.
2. Wedel S, Hahnefeld L, Alnouri MW, Offermanns S, Hausch F, Geisslinger G, Sisignano M. The FKBP51 Inhibitor SAFit2 Restores the Pain-Relieving C16 Dihydroceramide after Nerve Injury. Int J Mol Sci. 2022 Nov 17;23(22):14274. doi: 10.3390/ijms232214274. PMID: 36430751; PMCID: PMC9695264.

7. Bioactivity
Biological target:

SAFit2 is a FKBP51 inhibitor with a Ki of 6 nM and enhances AKT2-AS160 binding.

In vitro activity

Product data sheet

To explore FKBP5's function, siRNAs targeting FKBP5 and SAFit2 were used in clonal NIT-1 cells and primary human/mice islets. The inhibition of FKBP5 was associated with enhanced β-cell survival, improved insulin secretion, and the upregulation of key β-cell functional genes.

Reference: Cell Death Discov. 2023 Jul 14;9(1):247. https://pubmed.ncbi.nlm.nih.gov/37452039/

In vivo activity

This study proposes SAFit2 as a potential novel drug candidate for the treatment of paclitaxel-induced neuropathic pain. In a mouse model, SAFit2 shifted lipid levels in nervous tissue toward an anti-inflammatory and pro-resolving lipid profile, reduced the activation of astrocytes and microglia in the spinal cord, reduced levels of pain-mediating chemokines, and increased anti-inflammatory cytokines levels in neuronal tissues, ultimately leading to a resolution of neuroinflammation.

Reference: J Neuroinflammation. 2023 Jun 24;20(1):149. https://pubmed.ncbi.nlm.nih.gov/37355700/