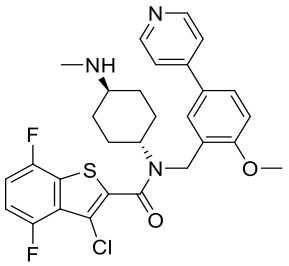
Product data sheet

MedKoo Cat#: 574418 Name: SAG 21k CAS#: 946002-48-8 Chemical Formula: $C_{29}H_{28}ClF_2N_3O_2S$ Exact Mass: 555.1559 Molecular Weight: 556.07	
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:
SAG 21k is a Hedgehog signaling activator that is orally bioavailable and brain penetrant.

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	55.61	100
Ethanol	11.12	20

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	1.8 mL	8.99 mL	17.98 mL
5 mM	0.36 mL	1.8 mL	3.6 mL
10 mM	0.18 mL	0.9 mL	1.8 mL
50 mM	0.04 mL	0.18 mL	0.36 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

To be determined

In vivo study

1. Rundle CH, Gomez GA, Pourteymoor S, Mohan S. Sequential application of small molecule therapy enhances chondrogenesis and angiogenesis in murine segmental defect bone repair. J Orthop Res. 2023 Jul;41(7):1471-1481. doi: 10.1002/jor.25493. Epub 2022 Dec 23. PMID: 36448182; PMCID: PMC10506518.

7. Bioactivity
Biological target:

SAG 21k is a potent Hedgehog signaling activator (EC50 = 0.4 nM) that is orally bioavailable and brain penetrant.

In vitro activity

To be determined

In vivo activity

In a murine femoral segmental defect nonunion model, SAG21k was administered systemically to stimulate chondrogenesis early in the bone repair process and was complemented by the use of IOX2 to promote hypoxia signaling-mediated endochondral bone

formation. The treatment increased the expression of specific genes related to these pathways in chondrocyte cell lines and in defect tissues.This combined therapy facilitated increased bone formation within the critical-size segmental defect.

Reference: J Orthop Res. 2023 Jul;41(7):1471-1481. https://pubmed.ncbi.nlm.nih.gov/36448182/