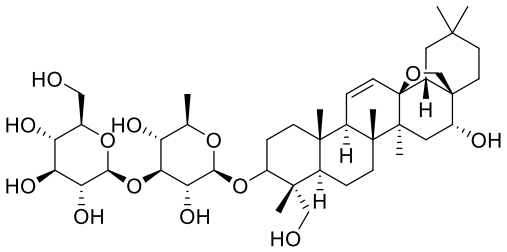
Product data sheet

MedKoo Cat#: 461707 Name: Saikosaponin A CAS#: 20736-09-8 Chemical Formula: $C_{42}H_{68}O_{13}$ Exact Mass: 780.4660 Molecular Weight: 780.99	
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:
Saikosaponin A is a bioactive triterpene saponin with anti-inflammatory effects.

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	30	38.41
DMSO	30	38.41
Ethanol	30	38.41
Ethanol:PBS (pH 7.2) (1:9)	0.1	0.13

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	1.28 mL	6.40 mL	12.80 mL
5 mM	0.26 mL	1.28 mL	2.56 mL
10 mM	0.13 mL	0.64 mL	1.28 mL
50 mM	0.03 mL	0.13 mL	0.26 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. Shi C, Sun L, Fang R, Zheng S, Yu M, Li Q. Saikosaponin-A Exhibits Antipancreatic Cancer Activity by Targeting the EGFR/PI3K/Akt Pathway. Curr Pharm Biotechnol. 2023;24(4):579-588. doi: 10.2174/1389201023666220610113514. PMID: 35692139.
2. Lim SH, Lee HS, Han HK, Choi CI. Saikosaponin A and D Inhibit Adipogenesis via the AMPK and MAPK Signaling Pathways in 3T3-L1 Adipocytes. Int J Mol Sci. 2021 Oct 22;22(21):11409. doi: 10.3390/ijms222111409. PMID: 34768840; PMCID: PMC8583978.

In vivo study

1. Wang AR, Mi LF, Zhang ZL, Hu MZ, Zhao ZY, Liu B, Li YB, Zheng S. Saikosaponin A improved depression-like behavior and inhibited hippocampal neuronal apoptosis after cerebral ischemia through p-CREB/BDNF pathway. Behav Brain Res. 2021 Apr 9;403:113138. doi: 10.1016/j.bbr.2021.113138. Epub 2021 Jan 22. Erratum in: Behav Brain Res. 2023 Aug 24;452:114596. PMID: 33493495.
2. Song Y, Sun H, Gao S, Tang K, Zhao Y, Xie G, Gao H. Saikosaponin a attenuates lead-induced kidney injury through activating Nrf2 signaling pathway. Comp Biochem Physiol C Toxicol Pharmacol. 2021 Apr;242:108945. doi: 10.1016/j.cbpc.2020.108945. Epub 2020 Dec 3. PMID: 33278595.

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7. Bioactivity

Biological target:

Saikosaponin A has anti-inflammatory, antiallergic, anticonvulsive, antiproliferative, and antiviral properties. Saikosaponin A reduced expression of TNF-α, IL-6, and IL-1β in primary mouse macrophages stimulated by LPS and reduced the duration and frequency of epileptiform activity in rat hippocampal CA1 neurons. Saikosaponin A decreased viability in six HCC, H358 lung and MCF-7 breast cancer, as well as Jurkat and K582 leukemia cell lines. It also prolonged tumor growth inhibition in LoVo and SW480 HCC mouse xenograft models.

In vitro activity

Saikosaponin A exerted inhibitory effects on pancreatic cancer cells. Increased concentration of Saikosaponin A increased the proportions of BxPC-3 and MIA PaCa-2 cells in the G0/G1 phase, the proportions of early and late apoptotic cells, and the apoptosis rate. Saikosaponin A promoted the activation of caspase 3 to induce apoptosis in pancreatic cancer cells. Saikosaponin A treatment significantly reduced the levels of phosphorylated EGFR, Akt, and PI3K in both cell lines.

Reference: Curr Pharm Biotechnol. 2023;24(4):579-588. https://pubmed.ncbi.nlm.nih.gov/35692139/

In vivo activity

In a murine model of post-stroke depression, Saikosaponin A improved depression-like behavior and inhibited hippocampal neuronal apoptosis after cerebral ischemia. Saikosaponin A significantly ameliorated depressive-like behavior; inhibited neuronal apoptosis; enhanced the levels of p-CREB, BDNF and Bcl-2; and reduced the level of Bax, Caspase-3 in the hippocampus of PSD rats.

Reference: Behav Brain Res. 2021 Apr 9;403:113138. https://pubmed.ncbi.nlm.nih.gov/33493495/

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.