

# Product data sheet



MedKoo Cat#: 527419 Name: Sarsagenin CAS: 126-19-2 Chemical Formula: C <sub>27</sub> H <sub>44</sub> O <sub>3</sub> Exact Mass: 416.3290 Molecular Weight: 416.65		
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:

Sarsagenin, also known as Sarsasapogenin, is a neurotrophic agent potentially for the treatment of amyotrophic lateral sclerosis (ALS) and glaucoma.

## 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	2	4.80
DMSO	0.2	0.48
Ethanol	2	4.80

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.40 mL	12.00 mL	24.00 mL
5 mM	0.48 mL	2.40 mL	4.80 mL
10 mM	0.24 mL	1.20 mL	2.40 mL
50 mM	0.05 mL	0.24 mL	0.48 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

- Zhai H, Liu H, Shang B, Zou X. Sarsasapogenin blocks ox-LDL-stimulated vascular smooth muscle cell proliferation, migration, and invasion through suppressing STIM1 expression. *Cardiovasc Diagn Ther.* 2023 Jun 30;13(3):441-452. doi: 10.21037/cdt-23-111. Epub 2023 Jun 2. PMID: 37405015; PMCID: PMC10315424.
- Wang W, Wang D, Wang Z, Yao G, Li X, Gao P, Li L, Zhang Y, Wang S, Song S. Synthesis of new sarsasapogenin derivatives with cytotoxicity and apoptosis-inducing activities in human breast cancer MCF-7 cells. *Eur J Med Chem.* 2017 Feb 15;127:62-71. doi: 10.1016/j.ejmech.2016.12.011. Epub 2016 Dec 20. PMID: 28038327.

### In vivo study

- Kong L, Liu Y, Zhang YM, Li Y, Gou LS, Ma TF, Liu YW. Sarsasapogenin ameliorates diabetes-associated memory impairment and neuroinflammation through down-regulation of PAR-1 receptor. *Phytother Res.* 2021 Jun;35(6):3167-3180. doi: 10.1002/ptr.7005. Epub 2021 Apr 22. PMID: 33885189.
- Yu YY, Cui SC, Zheng TN, Ma HJ, Xie ZF, Jiang HW, Li YF, Zhu KX, Huang CG, Li J, Li JY. Sarsasapogenin improves adipose tissue inflammation and ameliorates insulin resistance in high-fat diet-fed C57BL/6J mice. *Acta Pharmacol Sin.* 2021 Feb;42(2):272-281. doi: 10.1038/s41401-020-0427-1. Epub 2020 Jul 22. PMID: 32699264; PMCID: PMC8027656.

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## 7. Bioactivity

### Biological target:

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Sarsagenin inhibits proliferation of HeLa cervical, MCF-7 breast, HepG2 liver, A549 lung, A375.S2 melanoma, and HT-1080 fibrosarcoma cells (IC50s = 31.36-48.79  $\mu$ M) and dose-dependently induces apoptosis of HeLa cells.

### In vitro activity

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Sarsagenin treatment reduces STIM1 expression, hindering aggressive behaviors in vascular smooth muscle cells exposed to oxidized low-density lipoprotein (ox-LDL). This treatment protects against ox-LDL-induced cell proliferation, migration, and invasion. Sarsagenin also decreases the heightened STIM1 and Orai levels in ox-LDL-treated cells. Importantly, elevated STIM1 partly reverses Sarsagenin's effects on cell behavior in ox-LDL-challenged cells.

Reference: Cardiovasc Diagn Ther. 2023 Jun 30;13(3):441-452. <https://pubmed.ncbi.nlm.nih.gov/37405015/>

### In vivo activity

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The findings of this study suggest that Sarsagenin ameliorates insulin resistance and alleviates the adipose inflammatory state in high-fat diet mice. Sarsagenin may be a potential agent for the treatment of insulin resistance and obesity-related metabolic diseases.

Reference: Acta Pharmacol Sin. 2021 Feb;42(2):272-281. <https://pubmed.ncbi.nlm.nih.gov/32699264/>

*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.*