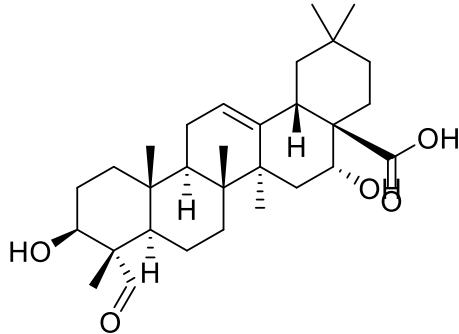


Product data sheet



MedKoo Cat#: 463045 Name: Quillaic Acid CAS#: 631-01-6 Chemical Formula: C ₃₀ H ₄₆ O ₅ Exact Mass: 486.3345 Molecular Weight: 486.6930	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C > 4 years In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

Quillaic acid is a triterpene saponin that has been found in *Q. saponaria* bark and has diverse biological activities. It shows strong anti-inflammatory activity.

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	41	84.24
Ethanol	14	28.77

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.05 mL	10.23 mL	20.55 mL
5 mM	0.41 mL	2.05 mL	4.11 mL
10 mM	0.21 mL	1.03 mL	2.05 mL
50 mM	0.04 mL	0.21 mL	0.41 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

- Reichert CL, Salminen H, Weiss J. Quillaja Saponin Characteristics and Functional Properties. *Annu Rev Food Sci Technol.* 2019 Mar 25;10:43-73. doi: 10.1146/annurev-food-032818-122010. Epub 2019 Jan 21. PMID: 30664381.
- Li F, Wu ST, Qu MH, Wang YX, Ma CL, Yu BH, Wang GS. Triterpenoid saponins from the herb *Hylomecon japonica*. *Phytochemistry.* 2021 Jan;181:112542. doi: 10.1016/j.phytochem.2020.112542. Epub 2020 Oct 22. PMID: 33130373.

In vivo study

- Arrau S, Delporte C, Cartagena C, Rodríguez-Díaz M, González P, Silva X, Cassels BK, Miranda HF. Antinociceptive activity of Quillaja saponaria Mol. saponin extract, quillaic acid and derivatives in mice. *J Ethnopharmacol.* 2011 Jan 7;133(1):164-7. doi: 10.1016/j.jep.2010.09.016. Epub 2010 Oct 14. PMID: 20951193.
- Rodríguez-Díaz M, Delporte C, Cartagena C, Cassels BK, González P, Silva X, León F, Wessjohann LA. Topical anti-inflammatory activity of quillaic acid from Quillaja saponaria Mol. and some derivatives. *J Pharm Pharmacol.* 2011 May;63(5):718-24. doi: 10.1111/j.2042-7158.2011.01263.x. Epub 2011 Apr 1. PMID: 21492174.

7. Bioactivity

Biological target:

Product data sheet



Quillaic acid is cytotoxic to SNU-1 and KATO III gastric cancer cells. Quillaic acid induces hot plate analgesia in mice. It reduces ear edema induced by arachidonic acid or phorbol 12-myristate 13-acetate in mice when administered topically at doses of 0.7 and 1.6 mg/ear, respectively.

In vitro activity

Six undescribed triterpenoid saponins, named as hylomeconoside C-H, were isolated from the EtOH extract of *Hylomecon japonica*, two of which contain quillaic acid. 50% EtOH extract showed moderate inhibitory activity on the human cancer cell line HeLa, HepG-2, MCF-7, A549, K562 and TE-1.

Reference: *Phytochemistry*. 2021 Jan;181:112542. <https://pubmed.ncbi.nlm.nih.gov/33130373/>

In vivo activity

Samples of commercial partially purified saponin extract, quillaic acid, methyl 3 β ,16 α -dihydroxy-23-oxoolean-12-en-28-oat and methyl 4-nor-3,16-dioxoolean-12-en-28-oate were assessed in mice using the topical tail-flick and i.p. hot-plate tests, respectively. The results of this study demonstrated that *Quillaja saponaria* saponins, quillaic acid, its methyl ester, and one of the oxidized derivatives of the latter, elicit dose-dependent antinociceptive effects in two murine thermal models.

Reference: *J Pharm Pharmacol*. 2011 May;63(5):718-24. <https://pubmed.ncbi.nlm.nih.gov/20951193/>

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.