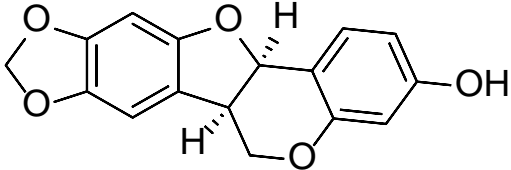


Product data sheet



MedKoo Cat#: 584676 Name: Maackiain CAS: 2035-15-6 Chemical Formula: C ₁₆ H ₁₂ O ₅ Exact Mass: 284.0685 Molecular Weight: 284.267		
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:

Maackiain is a phytoalexin produced in plants after injection with fungi.

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	100.0	351.78

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.52 mL	17.59 mL	35.18 mL
5 mM	0.70 mL	3.52 mL	7.04 mL
10 mM	0.35 mL	1.76 mL	3.52 mL
50 mM	0.07 mL	0.35 mL	0.70 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

- Lu N, Tan G, Tan H, Zhang X, Lv Y, Song X, You D, Gao Z. Maackiain Prevents Amyloid-Beta-Induced Cellular Injury via Priming PKC-Nrf2 Pathway. *Biomed Res Int.* 2022 Jun 22;2022:4243210. doi: 10.1155/2022/4243210. PMID: 35782063; PMCID: PMC9242816.
- Peng F, Wang L, Xiong L, Tang H, Du J, Peng C. Maackiain Modulates miR-374a/GADD45A Axis to Inhibit Triple-Negative Breast Cancer Initiation and Progression. *Front Pharmacol.* 2022 Mar 4;13:806869. doi: 10.3389/fphar.2022.806869. PMID: 35308218; PMCID: PMC8930825.

In vivo study

- Kuo YH, Hung HS, Tsai CW, Chiu SC, Liu SP, Chiang YT, Shyu WC, Lin SZ, Fu RH. A Novel Splice Variant of BCAS1 Inhibits β -Arrestin 2 to Promote the Proliferation and Migration of Glioblastoma Cells, and This Effect Was Blocked by Maackiain. *Cancers (Basel).* 2022 Aug 11;14(16):3890. doi: 10.3390/cancers14163890. PMID: 36010884; PMCID: PMC9405932.
- Bai X, Zhu Y, Jie J, Li D, Song L, Luo J. Maackiain protects against sepsis via activating AMPK/Nrf2/HO-1 pathway. *Int Immunopharmacol.* 2022 Jul;108:108710. doi: 10.1016/j.intimp.2022.108710. Epub 2022 Apr 8. PMID: 35405595.

7. Bioactivity

Biological target:

(-)-Maackiain is a pterocarpan phytoalexin produced from *Sophora flavescens*.

Product data sheet



In vitro activity

Maackiain downregulated A β ₄₂-induced cell injury and apoptosis in PC12 cells. Moreover, Maackiain prevented A β ₄₂ stimulation-induced generation of oxidative stress and reduced A β ₄₂-caused impairment of mitochondrial membrane potential in PC12 cells. Maackiain increased the superoxide dismutase activity and decreased malondialdehyde content that was induced by A β ₄₂.

Reference: Biomed Res Int. 2022 Jun 22;2022:4243210. <https://pubmed.ncbi.nlm.nih.gov/35782063/>

In vivo activity

Maackiain, a natural compound isolated from *Sophora flavescens*, exerted a protective role in a cecal ligation and puncture (CLP)-induced murine model of sepsis. Maackiain treatment reduced organ injury, and mitigated systematic inflammation and oxidative stress in septic mice.

Reference: Int Immunopharmacol. 2022 Jul;108:108710. <https://pubmed.ncbi.nlm.nih.gov/35405595/>

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.