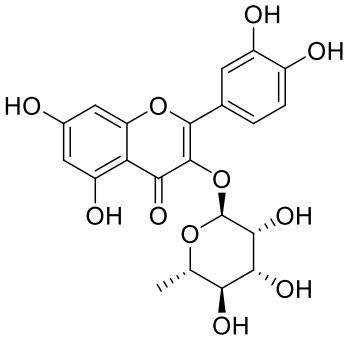
Product data sheet

MedKoo Cat#: 461290 Name: Quercitrin CAS#: 522-12-3 Chemical Formula: $C_{21}H_{20}O_{11}$ Exact Mass: 448.1006 Molecular Weight: 448.3800	
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:
Quercitrin is an antibacterial agent and has been shown to inhibit the oxidation of low-density lipoproteins and prevent an allergic reaction.

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	30.00	66.91
DMF	15.00	33.45
Ethanol	1.00	2.23

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.23 mL	11.15 mL	22.30 mL
5 mM	0.451 mL	2.23 mL	4.46 mL
10 mM	0.22 mL	1.12 mL	2.23 mL
50 mM	0.04 mL	0.22 mL	0.45 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. Adeniyi O, Baptista R, Bhowmick S, Cookson A, Nash RJ, Winters A, Shen J, Mur LAJ. Isolation and Characterisation of Quercitrin as a Potent Anti-Sickle Cell Anaemia Agent from Alchornea cordifolia. J Clin Med. 2022 Apr 13;11(8):2177. doi: 10.3390/jcm11082177. PMID: 35456270; PMCID: PMC9024604.
2. Tang J, Diao P, Shu X, Li L, Xiong L. Quercetin and Quercitrin Attenuates the Inflammatory Response and Oxidative Stress in LPS-Induced RAW264.7 Cells: In Vitro Assessment and a Theoretical Model. Biomed Res Int. 2019 Oct 28;2019:7039802. doi: 10.1155/2019/7039802. PMID: 31781635; PMCID: PMC6855062.

In vivo study

1. Wang L, Sun J, Miao Z, Jiang X, Zheng Y, Yang G. Quercitrin improved cognitive impairment through inhibiting inflammation induced by microglia in Alzheimer's disease mice. Neuroreport. 2022 May 18;33(8):327-335. doi: 10.1097/WNR.0000000000001783. Epub 2022 Apr 8. PMID: 35594435; PMCID: PMC9223515.
2. Xiong W, Yuan Z, Wang T, Wu S, Xiong Y, Yao Y, Yang Y, Wu H. Quercitrin Attenuates Acetaminophen-Induced Acute Liver Injury by Maintaining Mitochondrial Complex I Activity. Front Pharmacol. 2021 May 5;12:586010. doi: 10.3389/fphar.2021.586010. PMID: 34025394; PMCID: PMC8131832.

7. Bioactivity

Product data sheet

Biological target:

Quercitrin is a quercetin O-glycoside, quercetin substituted by a alpha-L-rhamnosyl moiety at position 3 via a glycosidic linkage. It has a role as an antioxidant, an antileishmanial agent, a carbonyl reductase (NADPH) inhibitor, an aldehyde reductase inhibitor, an tyrosinase inhibitor, and a plant metabolite.

In vitro activity

Purified quercitrin inhibited the polymerisation of isolated HbS and stabilized sickle erythrocytes membranes in cell cultures with sickle cells. Metabolomic comparisons of blood samples using flow-infusion electrospray-high resolution mass spectrometry indicated that quercitrin could convert HbSS erythrocyte metabolomes to be like HbAA. Sickling was associated with changes in antioxidants, anaerobic bioenergy, and arachidonic acid metabolism, all of which were reversed by quercitrin. This points to the development of an anti-sickling drug or quality control assessments of A. cordifolia preparations.

Reference: J Clin Med. 2022 Apr 13;11(8):2177. https://pubmed.ncbi.nlm.nih.gov/35456270/

In vivo activity

Diets rich in quercitrin show a neuroprotective effect, and the objective of this study was to explore the effect and mechanism of quercitrin in the treatment of alzheimer's disease (AD). Quercitrin improved 5XFAD transgenic mice cognitive impairment through alleviating the intensity of inflammatory response and is a promising medicinal plant extract in the treatment of AD.

Reference: . Neuroreport. 2022 May 18;33(8):327-335. https://pubmed.ncbi.nlm.nih.gov/35594435/

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.