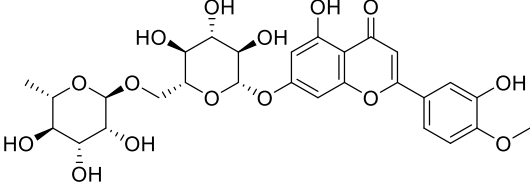


Product data sheet



MedKoo Cat#: 329594 Name: Diosmin CAS: 520-27-4 Chemical Formula: C ₂₈ H ₃₂ O ₁₅ Exact Mass: 608.1741 Molecular Weight: 608.549	
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:

Diosmin, also known as Barosmin, is a flavonoid glycoside found in citrus fruits, hyssop, and rosemary. Diosmin pretreatment improves cardiac function and suppresses oxidative stress in rat heart after ischemia/reperfusion. Diosmin induces genotoxicity and apoptosis in DU145 prostate cancer cell line. Diosmin exhibits anti-hyperlipidemic effects in isoproterenol induced myocardial infarcted rats. Diosmin alleviates retinal edema by protecting the blood-retinal barrier and reducing retinal vascular permeability during ischemia/reperfusion injury. Diosmin protects against ethanol-induced hepatic injury via alleviation of inflammation and regulation of TNF- α and NF- κ B activation.

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	164.33

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.64 mL	8.22 mL	16.43 mL
5 mM	0.33 mL	1.64 mL	3.29 mL
10 mM	0.16 mL	0.82 mL	1.64 mL
50 mM	0.03 mL	0.16 mL	0.33 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

- Deng J, Zheng C, Hua Z, Ci H, Wang G, Chen L. Diosmin mitigates high glucose-induced endoplasmic reticulum stress through PI3K/AKT pathway in HK-2 cells. *BMC Complement Med Ther.* 2022 Apr 27;22(1):116. doi: 10.1186/s12906-022-03597-y. PMID: 35477428; PMCID: PMC9044681.
- Ciolino HP, Wang TT, Yeh GC. Diosmin and diosmetin are agonists of the aryl hydrocarbon receptor that differentially affect cytochrome P450 1A1 activity. *Cancer Res.* 1998 Jul 1;58(13):2754-60. PMID: 9661887.

In vivo study

- Shaaban HH, Hozayen WG, Khaliefa AK, El-Kenawy AE, Ali TM, Ahmed OM. Diosmin and Trolox Have Anti-Arthritic, Anti-Inflammatory and Antioxidant Potencies in Complete Freund's Adjuvant-Induced Arthritic Male Wistar Rats: Roles of NF- κ B, iNOS, Nrf2 and MMPs. *Antioxidants (Basel).* 2022 Aug 30;11(9):1721. doi: 10.3390/antiox11091721. PMID: 36139795; PMCID: PMC9495550.
- Tong N, Zhang Z, Gong Y, Yin L, Wu X. Diosmin protects rat retina from ischemia/reperfusion injury. *J Ocul Pharmacol Ther.* 2012 Oct;28(5):459-66. doi: 10.1089/jop.2011.0218. Epub 2012 Apr 17. PMID: 22509733; PMCID: PMC3459007.

Product data sheet



7. Bioactivity

Biological target:

Diosmin is a flavonoid found in a variety of citrus fruits and also an agonist of the aryl hydrocarbon receptor (AhR).

In vitro activity

Diosmetin, but not diosmin, directly inhibited cytochrome P450 1A1 (CYP1A1) activity in a noncompetitive manner in microsomes isolated from DMBA-treated cells, as assayed by ethoxyresorufin-O-deethylase activity. Treatment of the cells with diosmin or diosmetin, on the other hand, caused a dose- and time-dependent increase in CYP1A1 activity in intact cells that was comparable to that induced by DMBA or by the aryl hydrocarbon benzo(a)pyrene.

Reference: Cancer Res. 1998 Jul 1;58(13):2754-60. <https://pubmed.ncbi.nlm.nih.gov/9661887/>

In vivo activity

In contrast, diosmin clearly protected against the retinal ischemic damage in the MD (model + diosmin) rat group, with normal patterns of organization in the outer nuclear and plexiform layers, except for a slight misalignment of the photoreceptors (Fig. 4). The thicknesses of the inner and outer retina and the GCL density in the MD group were significantly greater than those in the MV group ($P < 0.05$, Table 1), confirming the protective effect of diosmin.

Reference: J Ocul Pharmacol Ther. 2012 Oct;28(5):459-66. <https://pubmed.ncbi.nlm.nih.gov/22509733/>

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.