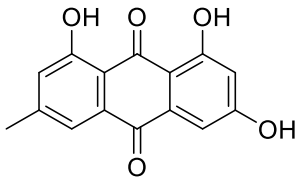
Product data sheet

MedKoo Cat#: 326742 Name: Emodin CAS#: 518-82-1 Chemical Formula: $C_{15}H_{10}O_5$ Exact Mass: 270.0528 Molecular Weight: 270.24	
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:

Emodin (from Rheum emodi, a Himalayan rhubarb) is a purgative resin, 6-methyl-1,3,8-trihydroxyanthraquinone, from rhubarb, buckthorn and Japanese knotweed (Fallopia japonica syn. Polygonum cuspidatum). Emodin is being studied as a potential agent that could reduce the impact of type 2 diabetes. It is a potent selective inhibitor of the enzyme 11β-HSD1. In studies in obese mice, emodin limits the effect of glucocorticoids and may therefore ameliorate diabetes and insulin resistance. Emodin is also shown to block cytomegalovirus infections as well as herpes simplex.

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
Acetone	10.87	40.22
DMSO	18.98	70.23
DMF	5.0	18.50
DMF:PBS (pH 7.2) (1:30)	0.03	0.11
Ethanol	3.0	11.10

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	3.70 mL	18.50 mL	37.00 mL
5 mM	0.74 mL	3.70 mL	7.40 mL
10 mM	0.37 mL	1.85 mL	3.70 mL
50 mM	0.07 mL	0.37 mL	0.74 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. Wu JH, Lv CF, Guo XJ, Zhang H, Zhang J, Xu Y, Wang J, Liu SY. Low Dose of Emodin Inhibits Hypercholesterolemia in a Rat Model of High Cholesterol. Med Sci Monit. 2021 Jul 14;27:e929346. doi: 10.12659/MSM.929346. PMID: 34257265.
2. Sun L, Han Y, Shen C, Luo H, Wang Z. Emodin alleviates high glucose-induced oxidative stress, inflammation and extracellular matrix accumulation of mesangial cells by the circ_0000064/miR-30c-5p/Lmp7 axis. J Recept Signal Transduct Res. 2021 Jun 21:1-11. doi: 10.1080/10799893.2021.1933028. Epub ahead of print. PMID: 34151713.

In vivo study

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1. Jiang N, Li Z, Luo Y, Jiang L, Zhang G, Yang Q, Chen H. Emodin ameliorates acute pancreatitis-induced lung injury by suppressing NLRP3 inflammasome-mediated neutrophil recruitment. Exp Ther Med. 2021 Aug;22(2):857. doi: 10.3892/etm.2021.10289. Epub 2021 Jun 9. PMID: 34178130; PMCID: PMC8220649.
2. Shen C, Pan Z, Wu S, Zheng M, Zhong C, Xin X, Lan S, Zhu Z, Liu M, Wu H, Huang Q, Zhang J, Liu Z, Si Y, Tu H, Deng Z, Yu Y, Liu H, Zhong Y, Guo J, Cai J, Xian S. Emodin palliates high-fat diet-induced nonalcoholic fatty liver disease in mice via activating the farnesoid X receptor pathway. J Ethnopharmacol. 2021 Jun 22;279:114340. doi: 10.1016/j.jep.2021.114340. Epub ahead of print. PMID: 34171397.

7. Bioactivity

Biological target:

Emodin (Frangula emodin), an anthraquinone derivative, is an anti-SARS-CoV compound.

In vitro activity

Data showed the alleviative effect of emodin on HG-induced oxidative stress, inflammation and extracellular matrix (ECM) accumulation in SV-MES13 cells. Circ_0000064 was an importantly downstream effector of emodin function in HG-induced SV40-MES13 cells.

Reference: J Recept Signal Transduct Res. 2021 Jun 21:1-11. https://pubmed.ncbi.nlm.nih.gov/34151713/

In vivo activity

Compared with the Sham group, the number of apoptotic cells was significantly higher in the SAP group (Fig. 2A and B). However, emodin and DEX treatment significantly decreased the number of apoptotic cells compared with the SAP group (Fig. 2A and B). In addition, the expression levels of caspase-3, Bax and Bcl2 were evaluated. Western blotting results revealed significantly increased expression levels of cleaved caspase-3 and Bax, but a significant decrease in Bcl-2 expression in the SAP group compared with in the Sham group (Figs. 2C-F and S1). However, in emodin- and DEX-treated rats, these changes were significantly reversed (Figs. 2C-F and S1).

Reference: Exp Ther Med. 2021 Aug; 22(2): 857. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8220649/

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.