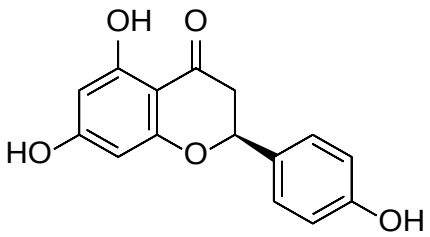
Product data sheet

MedKoo Cat#: 527706 Name: Naringenin CAS: 480-41-1 Chemical Formula: $C_{15}H_{12}O_5$ Exact Mass: 272.0685 Molecular Weight: 272.256	
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:

Naringenin is a bioflavonoid drug potentially for the treatment of HCV infection. Naringenin has antioxidant and chelating effects in the liver. Naringenin significantly suppressed UVB-induced extracellular signal-regulated kinase 2 (ERK2) activity and subsequently attenuated UVB-induced phosphorylation of p90(RSK) by competitively binding with ATP. Naringenin exerts potent anti-photoaging effects by suppressing ERK2 activity and decreasing FRA1 stability, followed by down-regulation of AP-1 transactivation and MMP-1 expression. Naringenin blocks TGF-β1 trafficking from the trans-Golgi network by suppressing PKC activity, resulting in a reduction of TGF-β1 secretion from breast cancer cells.

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	54.0	198.34
Ethanol	5.0	18.37

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.67 mL	18.37 mL	36.73 mL
5 mM	0.73 mL	3.67 mL	7.35 mL
10 mM	0.37 mL	1.84 mL	3.67 mL
50 mM	0.07 mL	0.37 mL	0.73 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. Yan Q, Fei Z, Li M, Zhou J, Du G, Guan X. Naringenin Promotes Myotube Formation and Maturation for Cultured Meat Production. Foods. 2022 Nov 22;11(23):3755. doi: 10.3390/foods11233755. PMID: 36496566; PMCID: PMC9738036.
2. Zhang X, Li M, Wu H, Fan W, Zhang J, Su W, Wang Y, Li P. Naringenin attenuates inflammation, apoptosis, and ferroptosis in silver nanoparticle-induced lung injury through a mechanism associated with Nrf2/HO-1 axis: In vitro and in vivo studies. Life Sci. 2022 Dec 15;311(Pt A):121127. doi: 10.1016/j.lfs.2022.121127. Epub 2022 Oct 25. PMID: 36306867.

In vivo study

1. Elhemiely AA, Yahia R, Gad AM. Naringenin alleviate reproductive toxicity evoked by lead acetate via attenuation of sperm profile and biochemical alterations in male Wistar rat: Involvement of TGFβ/AKT/mTOR pathway. J Biochem Mol Toxicol. 2023 Feb 20:e23335. doi: 10.1002/jbt.23335. Epub ahead of print. PMID: 36807407.
2. Ortiz-Andrade RR, Sánchez-Salgado JC, Navarrete-Vázquez G, Webster SP, Binnie M, García-Jiménez S, León-Rivera I, Cigarroa-Vázquez P, Villalobos-Molina R, Estrada-Soto S. Antidiabetic and toxicological evaluations of naringenin in normoglycaemic and

Product data sheet

NIDDM rat models and its implications on extra-pancreatic glucose regulation. Diabetes Obes Metab. 2008 Nov;10(11):1097-104. doi: 10.1111/j.1463-1326.2008.00869.x. Epub 2008 Mar 18. PMID: 18355329.

7. Bioactivity

Biological target:

Naringenin is a bioflavonoid drug potentially for the treatment of HCV infection.

In vitro activity

Here this study demonstrated that a natural compound, naringenin (NAR), promoted myogenic differentiation of porcine satellite cells (PSCs) in vitro and increased the content and maturity of generated myotubes, especially for PSCs that had undergone extensive expansion. Mechanistically, NAR upregulated the IGF-1/AKT/mTOR anabolic pathway during the myogenesis of PSCs by activating the estrogen receptor β.

Reference: Foods. 2022 Nov 22;11(23):3755. https://pubmed.ncbi.nlm.nih.gov/36496566/

In vivo activity

Intragastrically administered NG (naringenin) (50 mg/kg) induced a significant decrease in plasma GLU in normoglycaemic and NIDDM rat models ($p < 0.05$) following acute and subchronic time periods. After 5 days of administration, NG produced significant diminished blood GLU and TG levels in streptozotocin-nicotinamide-induced diabetic rats. The administration of NG to normal rats significantly increased the levels of TG, CHOL and HDL ($p < 0.05$).

Reference: Diabetes Obes Metab. 2008 Nov;10(11):1097-104. https://pubmed.ncbi.nlm.nih.gov/18355329/