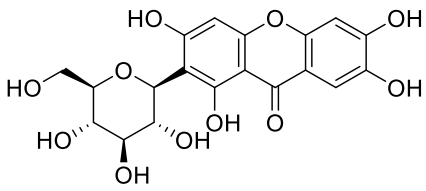


# Product data sheet



MedKoo Cat#: 584420 Name: Chinonin CAS#: 4773-96-0 Chemical Formula: C <sub>19</sub> H <sub>18</sub> O <sub>11</sub> Exact Mass: 422.0849 Molecular Weight: 422.342		
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:

Chinonin, also known as Mangiferin, is the main active substance of the mango tree bark (*Mangifera indica* L.). The antinociceptive effects induced by mangiferin are mediated by the peripheral opioidergic system involving the activation of  $\delta$ ,  $\kappa$ , and probably  $\mu$ , receptors, but not serotonergic receptors. This compound may prove to be effective in treating inflammatory pain in humans.

## 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	63.0	149.17
DMF	2.0	4.74

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.37 mL	11.84 mL	23.68 mL
5 mM	0.47 mL	2.37 mL	4.74 mL
10 mM	0.24 mL	1.18 mL	2.37 mL
50 mM	0.05 mL	0.24 mL	0.47 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

- Chi XJ, Meng JJ, Lin CY, Su QS, Qin YY, Wei RH, Lan D, Huang C. Mangiferin Inhibits Human Lung Adenocarcinoma by Suppressing MiR-27b and MiR-92a. *Evid Based Complement Alternat Med.* 2021 Jul 12;2021:2822950. doi: 10.1155/2021/2822950. PMID: 34335801; PMCID: PMC8292060.
- Qin ZZ, Ruan J, Lee MR, Sun K, Chen P, Chen Y, Hong M, Xia LH, Fang J, Tang H. Mangiferin Promotes Bregs Level, Activates Nrf2 Antioxidant Signaling, and Inhibits Proinflammatory Cytokine Expression in Murine Splenic Mononuclear Cells In Vitro. *Curr Med Sci.* 2021 Jun;41(3):454-464. doi: 10.1007/s11596-021-2371-9. Epub 2021 Jun 15. PMID: 34129203.

### In vivo study

- Yu H, Hou G, Cao J, Yin Y, Zhao Y, Cheng L. Mangiferin Alleviates Mitochondrial ROS in Nucleus Pulposus Cells and Protects against Intervertebral Disc Degeneration via Suppression of NF- $\kappa$ B Signaling Pathway. *Oxid Med Cell Longev.* 2021 Jun 11;2021:6632786. doi: 10.1155/2021/6632786. PMID: 34234886; PMCID: PMC8216826.
- Zhang C, Yuan Y, Ou M. Mangiferin attenuates cigarette smoke-induced chronic obstructive pulmonary disease in male albino rats. *Microvasc Res.* 2021 Jun 15;138:104208. doi: 10.1016/j.mvr.2021.104208. Epub ahead of print. PMID: 34139206.

## 7. Bioactivity

# Product data sheet



## Biological target:

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Mangiferin is a Nrf2 activator. Mangiferin suppresses nuclear translocation of the NF- $\kappa$ B subunits p65 and p50.

## In vitro activity

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Mangiferin showed inhibitory effects on A549, H1299, and H2030 cells, and the inhibition rate increased with increasing concentration. In addition, as the exposure time increased, the cell inhibition rate also showed an upward trend, which suggests that the inhibitory effect of mangiferin on LUAD cells is dose- and time-dependent (Figure 2).

Reference: Evid Based Complement Alternat Med. 2021 Jul 12;2021:2822950. <https://pubmed.ncbi.nlm.nih.gov/34335801/>

## In vivo activity

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As shown in Figures 5(a) and 5(b), the IVD height was diminished after needle puncture, while mangiferin treatment largely attenuated this degeneration change of IVD, as assayed using X-ray measurements. As shown in Figures 5(c) and 5(d), MRI-T2WI detected a higher signal intensity in the rat IVD after mangiferin treatment than in the IVD of the needle puncture group, which proved that mangiferin plays an active role in the process of IVDD.

Reference: Oxid Med Cell Longev. 2021; 2021: 6632786. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8216826/>

*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.*