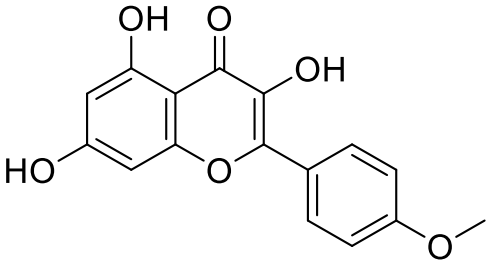
Product data sheet

MedKoo Cat#: 558219 Name: Kaempferide CAS: 491-54-3 Chemical Formula: $C_{16}H_{12}O_6$ Exact Mass: 300.0634 Molecular Weight: 300.266	
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:
Kaempferide is an O-methylated flavonol, a type of chemical compound. It can be found in Kaempferia galanga (aromatic ginger).

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
DMF	2.0	6.66
DMSO	30.0	99.91
DMSO:PBS (pH 7.2) (1:4)	0.2	0.67
Ethanol	8.0	26.64

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	3.33 mL	16.65 mL	33.30 mL
5 mM	0.67 mL	3.33 mL	6.66 mL
10 mM	0.33 mL	1.67 mL	3.33 mL
50 mM	0.07 mL	0.33 mL	0.67 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. Martineti V, Tognarini I, Azzari C, Carbonell Sala S, Clematis F, Dolci M, Lanzotti V, Tonelli F, Brandi ML, Curir P. Inhibition of in vitro growth and arrest in the G0/G1 phase of HCT8 line human colon cancer cells by kaempferide triglycoside from Dianthus caryophyllus. Phytother Res. 2010 Sep;24(9):1302-8. doi: 10.1002/ptr.3105. PMID: 20104502.
2. Kumkarnjana S, Suttisri R, Nimmannit U, Sucontphunt A, Khongkow M, Koobkokkruad T, Vardhanabhuti N. Flavonoids kaempferide and 4,2'-dihydroxy-4',5',6'-trimethoxychalcone inhibit mitotic clonal expansion and induce apoptosis during the early phase of adipogenesis in 3T3-L1 cells. J Integr Med. 2019 Jul;17(4):288-295. doi: 10.1016/j.joim.2019.04.004. Epub 2019 Apr 26. PMID: 31078439.

In vivo study

1. Tang H, Zeng Q, Ren N, Wei Y, He Q, Chen M, Pu P. Kaempferide improves oxidative stress and inflammation by inhibiting the TLR4/IκBα/NF-κB pathway in obese mice. Iran J Basic Med Sci. 2021 Apr;24(4):493-498. doi: 10.22038/ijbms.2021.52690.11892. PMID: 34094031; PMCID: PMC8143716.
2. Tang H, Zeng Q, Tang T, Wei Y, Pu P. Kaempferide improves glycolipid metabolism disorder by activating PPARγ in high-fat-diet-fed mice. Life Sci. 2021 Apr 1;270:119133. doi: 10.1016/j.lfs.2021.119133. Epub 2021 Jan 27. PMID: 33508298.

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7. Bioactivity

Biological target:

Kaempferide is an O-methylated flavonol, a type of chemical compound.

In vitro activity

Kaempferide triglycoside proved to inhibit the proliferation of native and estrogen receptor beta overexpressing colon cancer cells through a mechanism not mediated by ligand binding dependent estrogen receptor activation.

Reference: Phytother Res. 2010 Sep;24(9):1302-8. https://pubmed.ncbi.nlm.nih.gov/20104502/

In vivo activity

Obesity, glycolipid metabolism disorder, inflammation, and oxidative stress developed in HFD mice. These changes can be effectively alleviated by Ka (Kaempferide) treatment for 16 weeks. Further studies have suggested that these beneficial effects of Ka may be associated with inhibition of the TLR4/IκBα/NF-κB signaling pathways.

Reference: Iran J Basic Med Sci. 2021 Apr;24(4):493-498. https://pubmed.ncbi.nlm.nih.gov/34094031/

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.