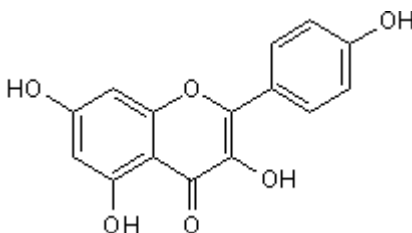


Product Name: Kaempferol
CAS Number: 520-18-3
IUPAC Name: 3,5,7-Trihydroxy-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one

Catalog No.: 3603
Batch No.: 3
EC Number: 208-287-6

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₅H₁₀O₆·H₂O
Batch Molecular Weight: 304.26
Physical Appearance: Yellow solid
Solubility: DMSO to 100 mM
 ethanol to 100 mM
Storage: Store at +4°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.6% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	59.22	3.98	
Found	59.08	4.01	

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Catalog No.: 3603

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IUPAC Name: 3,5,7-Trihydroxy-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one

Description:

Naturally occurring flavonoid found in Gingko biloba and red wines that activates the mitochondrial Ca²⁺ uniporter (EC₅₀ = 7 μM). Induces caspase-9-mediated apoptosis in a variety of cancer cell lines via downregulation of polo-like kinase 1 (PLK1) expression. Exhibits antioxidant activity and attenuates osteoclastic bone reabsorption in vitro. Also blocks EGF-induced histone H3Ser¹⁰ phosphorylation in mouse epidermal JB6 C141 cells.

Physical and Chemical Properties:

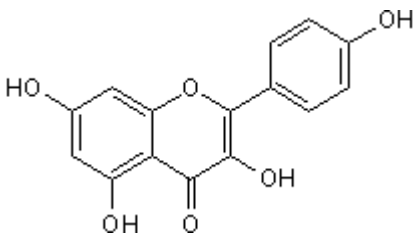
Batch Molecular Formula: C₁₅H₁₀O₆·H₂O

Batch Molecular Weight: 304.26

Physical Appearance: Yellow solid

Minimum Purity: >98%

Batch Molecular Structure:



References:

Montero et al (2004) Direct activation of the mitochondrial calcium uniporter by natural plant flavonoids. *Biochem.J.* **384** 19. PMID: 15324303.

Cho et al (2007) Ribosomal S6 kinase 2 is a key regulator in tumor promoter induced cell transformation. *Cancer Res.* **67** 8104. PMID: 17804722.

Suh et al (2009) Kaempferol attenuates 2-deoxy-D-ribose-induced oxidative cell damage in MC3T3-E1 osteoblastic cells. *Biol.Pharm.Bull.* **32** 746. PMID: 19336918.

Kang et al (2009) Downregulation of PLK-1 expression in kaempferol-induced apoptosis of MCF-7 cells. *Eur.J.Pharmacol.* **611** 17. PMID: 19356725.

Vay et al (2009) Modulation of Ca²⁺ release and Ca²⁺ oscillations in HeLa cells and fibroblasts by mitochondrial Ca²⁺ uniporter stimulation. *J.Physiol.* **580** 39.

Storage: Store at +4°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

Solubility & Usage Info:

DMSO to 100 mM

ethanol to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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