

## Certificate of Analysis

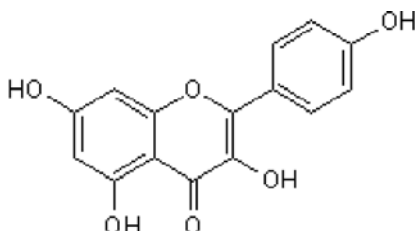
[www.tocris.com](http://www.tocris.com)

**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:** C<sub>15</sub>H<sub>10</sub>O<sub>6</sub>.H<sub>2</sub>O  
**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  
**<sup>1</sup>H 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

**Product Name:** Kaempferol

**Catalog No.:** 3603

**Batch No.:** 3

CAS Number: 520-18-3

EC Number: 208-287-6

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

**Description:**

Activates the mitochondrial Ca<sup>2+</sup> uniporter (EC<sub>50</sub> = 7 μM). Induces caspase-9-mediated apoptosis in 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 H3Ser<sup>10</sup> phosphorylation in mouse epidermal JB6 C141 cells. Activates transcriptional coactivator with PDZ-binding motif (TAZ) and increases osteoblast differentiation of mesenchymal stem cells while inhibiting adipocyte differentiation. Naturally occurring flavonoid found in Gingko biloba and red wine. Kaempferol has antiviral activity against Japan... Please see product specific page on www.tocris.com for full description.

**Physical and Chemical Properties:**

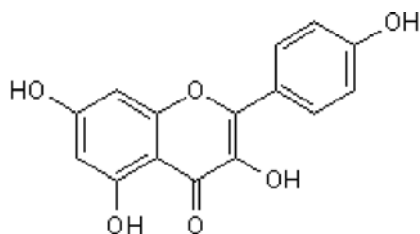
Batch Molecular Formula: C<sub>15</sub>H<sub>10</sub>O<sub>6</sub>.H<sub>2</sub>O

Batch Molecular Weight: 304.26

Physical Appearance: Yellow solid

**Minimum Purity:** ≥98%

**Batch Molecular Structure:**



**References:**

**Byun et al** (2012) TAZ is required for the osteogenic and anti-adipogenic activities of kaempferol. *Bone* **50** 364. PMID: 22108137.

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

**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.

**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.

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

**bio-techne.com**

info@bio-techne.com

techsupport@bio-techne.com

**North America**

Tel: (800) 343 7475

**China**

info.cn@bio-techne.com

Tel: +86 (21) 52380373

**Europe Middle East Africa**

Tel: +44 (0)1235 529449

**Rest of World**

www.tocris.com/distributors

Tel:+1 612 379 2956