

# Kaempferitrin

Catalog No: tcsc0009620



## Available Sizes

**Size:** 1mg

**Size:** 5mg

**Size:** 10mg



## Specifications

**CAS No:**

482-38-2

**Formula:**

$C_{27}H_{30}O_{14}$

**Pathway:**

Protein Tyrosine Kinase/RTK

**Target:**

Insulin Receptor

**Purity / Grade:**

>98%

**Solubility:**

10 mM in DMSO

**Alternative Names:**

Lespedin;Lespenephryl

**Observed Molecular Weight:**

578.52

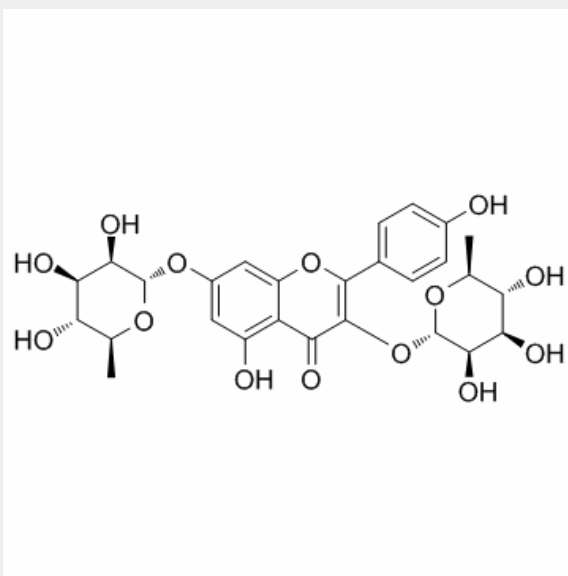
## Product Description

Kaempferitrin is a natural flavonoid, possesses antinociceptive, anti-inflammatory, anti-diabetic, antitumoral and chemopreventive effects, and activates **insulin** signaling pathway.

IC<sub>50</sub> & Target: Insulin Receptor<sup>[1]</sup>

**In Vitro:** Kaempferitrin activates insulin signaling pathway. Kaempferitrin causes survival rates higher than 90% at 1-20  $\mu$ M in matured 3T3-L1 adipocyte, and the survival rates decline rapidly at 25 and 50  $\mu$ M. Kaempferitrin (15  $\mu$ M) increases insulin receptor beta tyrosine phosphorylation and tyrosine phosphorylation of the insulin receptor substrate 1, and such effects are similar to that of 10 nM insulin. Kaempferitrin (15  $\mu$ M) also stimulates akt phosphorylation on ser473, and the stimulation can be blocked by a PI3-K inhibitor wortmannin. Kaempferitrin potently exerts the translocation of GLUT4 to the membrane of adipocytes at 15  $\mu$ M, and this is suppressed by wortmannin. In addition, Kaempferitrin increases the total levels of Glu4 protein in differentiated cells and secreted adiponectin in mature 3T3-L1 adipocytes<sup>[1]</sup>. Kaempferitrin is cytotoxic to human cancer cells such as HeLa and MDA-MB231 cells, with IC<sub>50</sub>s of  $45 \pm 2.6$  and  $65 \pm 2.6$   $\mu$ M, and shows low toxic effects on non-tumorigenic cells. Kaempferitrin (45  $\mu$ M) induces apoptosis of HeLa cells after treatment for 24 and 48 h, and causes reactive oxygen species (ROS) generation in HeLa cells. Furthermore, Kaempferitrin (45  $\mu$ M) exerts G1 arrest, causes the expression of proteins associated with intrinsic pathway of apoptosis and activates caspase 3 in HeLa cells<sup>[2]</sup>.

**In Vivo:** Kaempferitrin (2.5, 10 and 25 mg/kg, i.p.) markedly suppresses the growth of tumor by 40%, 87% and 97%, and decreases tumor weight by 37%, 81% and 95%, respectively in nu/nu mice bearing HeLa tumor. Kaempferitrin also inhibits cell proliferation and extends life span in mice bearing tumor<sup>[2]</sup>.



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!