Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

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

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

IC50 & Target: Insulin Receptor[1]

In Vitro: Kaempferitrin activates insulin signaling pathway. Kaempferitrin causes survival rates higher than 90% at 1-20 μM in matured 3T3-L1 adipocyte, and the survival rates decline rapidly at 25 and 50 μM. Kaempferitrin (15 μM) 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 μM) 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 μM, 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[1]. Kaempferitrin is cytotoxic to human cancer cells such as HeLa and MDA-MB231 cells, with IC_{50}s of 45 ± 2.6 and 65 ± 2.6 μM, and shows low toxic effects on non-tumorigenic cells. Kaempferitrin (45 μM) 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 μM) exerts G1 arrest, causes the expression of proteins associated with intrinsic pathway of apoptosis and activates caspase 3 in HeLa cells[2].

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[2].