

## 山奈酚

中文名：山奈酚

英文名：Kaempferol

CAS 号：520-18-3

分子式：C<sub>15</sub>H<sub>10</sub>O<sub>6</sub>

分子量：286.24

Beilstein 号：304401

EC 号：MFCD00016938

MDL 号：MFCD00016938

PubChem 编号：24896195

属 性

敏感性 否

贮存条件 储存温度 -20° C

熔 点 276° C

密 度 1.6880

荧 光 否

IC50 否

pK Values 否

## 描述

别名 山奈酚 ; 茨菲醇 , 3,4 ‘ ,5,7- 四羟基黄酮 ;3,4 ‘ ,5,7-Tetrahydroxyflavone  
3,5,7-Trihydroxy-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one Robigenin

用途 一种黄酮醇。能使佛波醇酯处理的小鼠成纤维细胞或 v-H-ras-转化的 NIH 3T3 细胞变形后的恢复。能显著诱导核 DNA 退化，同时伴随脂类的过氧化反应。抑制拓扑异构酶 I 催化的 DNA 再连接。

## 生化机理

Description: IC50 value: Kaempferol inhibits proliferation of ovarian cancer cells at 40  $\mu$  M or higher concentrations[2]. Kaempferol (3,5,7-trihydroxy-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one) is a relatively common nontoxic, natural dietary compound which has been reported to reduce the risk of ovarian cancer[1]. in vitro: Kaempferol was found to inhibit estrogen receptor alpha expression in breast cancer cells and to induce apoptosis in glioblastoma cells and lung cancer cells by activation of MEK-MAPK. Studies have shown that kaempferol also has anti-inflammatory effects via inhibition of interleukin-4 and cyclo-oxygenase 2 expression by suppressing Src kinase and downregulating the NF  $\kappa$  B pathway. Kaempferol is also effective in inhibiting angiogenesis and inducing apoptosis in ovarian cancer cells [1]. kaempferol has a distinct epigenetic activity by inhibition of histone deacetylases (HDACs). In silico docking analysis revealed that it fits into the binding pocket of HDAC2, 4, 7 or 8 and thereby binds to the zinc ion of the catalytic center. Further in vitro profiling of all conserved human HDACs of class I, II and IV showed that kaempferol inhibited all tested HDACs [4]. in vivo: Male BALB/c mice with ALI, induced by intranasal instillation of LPS, were treated or not with Kae (100 mg/kg, intragastrically) 1h prior to LPS exposure. Kae treatment attenuated pulmonary edema of mice with ALI after LPS challenge, as it markedly decreased the lung W/D ratio of lung samples, protein concentration and the amounts of inflammatory cells in BALF[3]. Clinical trial:N/A