For Research Use Only

7,8-Dihydroxyflavone

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Catalog Number: CM00048

产品信息

Catalog Number:
CM00048

CAS号:
38183-03-8

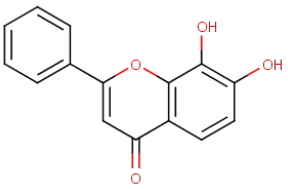
分子式:
$C_{15}H_{10}O_4$

主要靶点:
Apoptosis|Trk receptor

主要通路:
蛋白酪氨酸激酶|凋亡

分子量:
254.24

溶解度:
H2O:<1 mg/mL,Ethanol:1 mg/mL (3.93 mM),DMSO:47 mg/mL (184.9 mM)



靶点活性

TrkB receptor:320 nM(Kd)

体外活性

7,8-DHF is one of the positive compounds that specifically activate TrkB, but not TrkA or TrkC, at a concentration of 250 nM. In addition to cortical and hippocampal neurons, 7,8-DHF also protects other cell types including the RGC (retinal ganglion cells) and PC12 cells from excitotoxic and oxidative stress-induced apoptosis and cell death. Thus, it has neuroprotective properties[1].

体内活性

7,8-Dihydroxyflavone is a bioavailable chemical that can pass through the BBB to provoke TrkB and its downstream PI3K/Akt and MAPK activation in mouse brain upon intraperitoneal or oral administration. 7,8-DHF promotes the survival and reduces apoptosis in cortical neurons of traumatic brain injury as administration of 7,8-DHF at 3 h post-injury reduces brain tissue damage via the PI3K/Akt pathway. Its treatment does not induce any apparent toxicity in mice and is not toxic to the mice during the chronic treatment. 7,8-DHF displays robust therapeutic efficacy toward Alzheimer's disease and inhibits obesity through activating muscular TrkB[1].

细胞实验

PC12 cells are seeded in 96-well plates at 104/well. After pretreatment with 7,8-DHF (1-25 μM) for 1 h, the cells are exposed to 6-OHDA (100 μM) for subsequent 24 h. The PI3k inhibitor LY294002 or MEK inhibitor PD98059 is added 30 min before 7,8-DHF treatment. At the end of the experiment, PC12 cells are incubated with 20 μl of MTT solution (5 mg/ml in PBS) for 4 h at 37 ?C. The dark blue formazan product due to the reduction of MTT is dissolved in 150 μl of DMSO, and the absorbance at 570 nm is recorded with a microplate reader. The viability is expressed as the percentage of the untreated control cells. (Only for Reference)

描述

7, 8-Dihydroxyflavone (7, 8-DHF) is a naturally-occurring flavone and exist in Tridax procumbens, Godmania aesculifolia, and primula tree leaves.

储存

Powder: -20°C for 3 years | In solvent: -80°C for 2 years