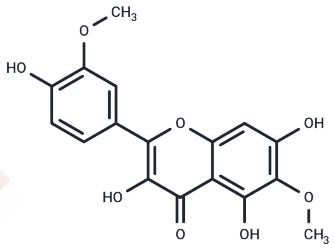
Data Sheet (Cat.No.TN6667)

TargetMol

Spinacetin

Chemical Properties



CAS No. : 3153-83-1

Formula: C17H14O8

Molecular Weight: 346.29

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Spinacetin has anti-inflammatory effects, it weakly inhibited nitric oxide production and reduced prostaglandin E2 levels to different extents. It shows the activities in preventing inflammatory processes, which might be at least partially attributed to the abolishment of Syk-dependent activation of IgE/Ag-mediated mast cells.
Targets(IC50)	Histamine Receptor
In vitro	We previously reported the anti-inflammatory and anti-asthmatic activities of the extract of the Inula japonica Thunb. Aiming for discovery of a novel anti-inflammatory compound, we isolated Spinacetin from the extract and investigated its in vitro and in vivo anti-inflammatory effect and the related mechanism. METHODS AND RESULTS: Effect of Spinacetin on the Syk signaling pathway was studied in bone marrow-derived mast cells (BMMCs), and that on the nuclear factor-κB (NF-κB) and mitogen-activated protein kinases (MAPKs) was investigated in Rat basophilic leukemia (RBL)-2H3 cells and human mast cell line (HMC-1). The in vivo anti-inflammatory activity was assessed with passive cutaneous anaphylaxis (PCA) reaction assay. Spinacetin significantly inhibited the release of histamine, and production of inflammatory mediators such as leukotriene C4 (LTC4) and interlukin-6 (IL-6) in IgE/Ag stimulated BMMCs. Analysis of the signaling pathways demonstrated that Spinacetin inhibited activation of Syk, linker of activated T cells (LAT), phospholipase Cγ (PLCγ), cytosolic phospholipase A2 (cPLA2), MAPKs, Akt/NF-κB, and intracellular Ca2+ mobilization but with no effect on Fyn and Lyn. On the other hand, Spinacetin suppressed IgE/Ag-induced activation of RBL-2H3 cells with inhibition against phosphorylation of extracellular signal regulated-protein kinase (ERK), c-Jun-NH2-terminal kinase (JNK), p38 MAPKs, PLCγ, translocation of cPLA2, and Akt/IκBα/NF-κB signal. However, Spinacetin had no effect on PMA and A23187-induced activation of HMC-1. Furthermore, oral administration of Spinacetin dose-dependently attenuated IgE/Ag-mediated PCA reaction in mouse model. CONCLUSIONS: Taken together, Spinacetin showed the activities in preventing inflammatory processes, which might be at least partially attributed to the abolishment of Syk-dependent activation of IgE/Ag-mediated mast cells.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.8878 mL	14.4388 mL	28.8775 mL
5 mM	0.5776 mL	2.8878 mL	5.7755 mL
10 mM	0.2888 mL	1.4439 mL	2.8878 mL
50 mM	0.0578 mL	0.2888 mL	0.5776 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Spinacetin Suppresses the Mast Cell Activation and Passive Cutaneous Anaphylaxis in Mouse Model. Front Pharmacol. 2018 Jul 30;9:824.