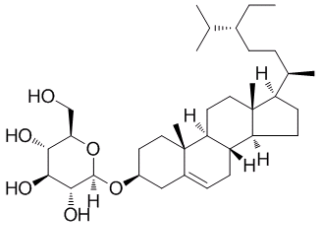
Data Sheet

Product Name:	Daucosterol
Cat. No.:	HY-N0410
CAS No.:	474-58-8
Molecular Formula:	$C_{35}H_{60}O_6$
Molecular Weight:	576.85
Target:	Others
Pathway:	Others
Solubility:	DMSO: 7.9 mg/mL



BIOLOGICAL ACTIVITY:

Daucosterol is a natural sterolin.

IC50 value:

Target:

In vitro: In the study of the effects of daucosterol on the survival of cultured cortical neurons after neurons were subjected to oxygen and glucose deprivation and simulated reperfusion (OGD/R)(2), the results showed that post–treatment of daucosterol significantly reduced neuronal loss, as well as apoptotic rate and caspase–3 activity, displaying the neuroprotective activity. We also found that daucosterol increased the expression level of IGF1 protein, diminished the down–regulation of p–AKT(3) and p–GSK–3β(4), thus activating the AKT(5) signal pathway [1]. Cell counting kit–8 (CCK–8) assay showed that daucosterol significantly increased the quantity of viable cells and the effectiveness of daucosterol was similar to that of basic fibroblast growth factor (bFGF) and epidermal growth factor (EGF) [2]. Daucosterol inhibits the proliferation of human breast cancer cell line MCF–7 and gastric cancer cell lines MGC803, BGC823 and AGS in a dose–dependent manner. Furthermore, daucosterol inhibits murine hepatoma H22 cell growth in ICR mice. Daucosterol treatment induces intracellular ROS generation and autophagy, but not apoptotic cell death. Treatment with ROS scavenger GSH (reduced glutathione), NAC (N–acetyl–l–cysteine) or autophagy inhibitor 3–Methyladenine (3–MA) counteracted daucosterol–induced autophagy and growth inhibition in BGC823 and MCF–7 cancer cells [3].

In vivo:

PROTOCOL (Extracted from published papers and Only for reference)

Cell assay [3]

MTT assay was performed to determine cell viability. Briefly, MCF–7, AGS, MGC803 and BGC823 cells were seeded in 96–well plates at a density of 1500 cells/well. 24 h later, cells were treated with vehicle (DMSO, final concentration was 0.5%) or serial concentrations of daucosterol (0.01 μM, 0.1 μM, 1 μM, 3 μM, 10 μM, 30 μM and 100 μM) for another 48 h. Then MTT assay was performed according to the manufacturer's instructions. The absorbance was read at 570 nm with a microplate reader (Bio–Rad, Richmond, CA). The mean values were calculated based on the data of five replicates. The IC50 values (the concentration for 50% inhibition of cell growth) were calculated from linear regression analysis of experimental data.

References:

[1]. Jiang LH, et al. Daucosterol protects neurons against oxygen–glucose deprivation/reperfusion–mediated injury by activating IGF1 signaling pathway. J Steroid Biochem Mol Biol. 2015 Aug;152:45–52.

[2]. Jiang LH, et al. Daucosterol promotes the proliferation of neural stem cells. J Steroid Biochem Mol Biol. 2014 Mar;140:90–9.

[3]. Zhao C, et al. Daucosterol inhibits cancer cell proliferation by inducing autophagy through reactive oxygen species–dependent manner. Life Sci. 2015

Sep 15;137:37–43.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA