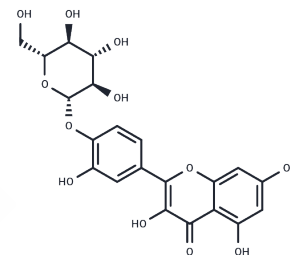


Spiraeoside

Chemical Properties

CAS No. :	20229-56-5
Formula:	C ₂₁ H ₂₀ O ₁₂
Molecular Weight:	464.38
Storage:	Store at low temperature Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	Spiraeoside (Quercetin 4'-O-glucoside) is a compound that can be extracted from red onion skins. It exhibits antioxidant, anti-allergy, anti-inflammatory, and anti-tumor activities. It protects human myocardial cells from high glucose-induced damage, oxidative stress, and apoptosis by activating the PI3K/Akt/Nrf2 pathway. It also inhibits mast cell activation and IgE-mediated allergic reactions by suppressing phospholipase C- γ -mediated signaling.
Targets(IC50)	Reactive Oxygen Species, ROS
In vitro	Spiraeoside attenuated the high glucose (HG) -induced decline in cell viability and increased levels of the myocardial enzymes lactate dehydrogenase and aspartate aminotransferase in AC16 cells. Spiraeoside protects AC16 cells from HG-induced oxidative stress, cell damage and apoptosis. The protective effect of Spiraeoside is regulated by the PI3K/Akt/Nrf2 signaling pathway. [1] Spiraeoside inhibits IGE-mediated mast cell activation and anaphylaxis by inhibiting PLC- γ 2/MAPK signaling in Lyn induced mast cells. [2]
In vivo	Spiraeoside (200 mg/kg orally) improved sperm count, motility and testicular morphology in rats. [3]

Solubility Information

Solubility	DMSO: 10 mg/mL (21.53 mM), Sonication is recommended. Ethanol: 10 mg/mL (21.53 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.1534 mL	10.767 mL	21.5341 mL
5 mM	0.4307 mL	2.1534 mL	4.3068 mL
10 mM	0.2153 mL	1.0767 mL	2.1534 mL
50 mM	0.0431 mL	0.2153 mL	0.4307 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

- Liu H, et al. Spiraeoside protects human cardiomyocytes against high glucose-induced injury, oxidative stress, and apoptosis by activation of PI3K/Akt/Nrf2 pathway. *J Biochem Mol Toxicol.* 2020 Oct;34(10):e22548.
- Kim JK, et al. Spiraeoside inhibits mast cells activation and IgE-mediated allergic responses by suppressing phospholipase C- γ -mediated signaling. *Biochem Cell Biol.* 2015 Jun;93(3):227-35.
- Karna KK, et al. The ameliorative effect of monotropein, astragaloside, and spiraeoside on oxidative stress, endoplasmic reticulum stress, and mitochondrial signaling pathway in varicocele rats. *BMC Complement Altern Med.* 2019 Nov 26;19(1):333.

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