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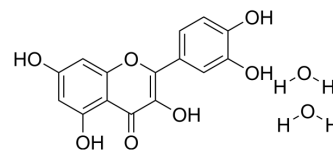
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Quercetin dihydrate

Cat. No.:	HY-N0146
CAS No.:	6151-25-3
Molecular Formula:	C ₁₅ H ₁₄ O ₉
Molecular Weight:	338
Target:	PI3K; Apoptosis
Pathway:	PI3K/Akt/mTOR; Apoptosis
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (295.86 mM; Need ultrasonic) H ₂ O : < 0.1 mg/mL (insoluble)					
	Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
		1 mM	2.9586 mL	14.7929 mL	29.5858 mL	
		5 mM	0.5917 mL	2.9586 mL	5.9172 mL	
		10 mM	0.2959 mL	1.4793 mL	2.9586 mL	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (7.40 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (7.40 mM); Clear solution					

BIOLOGICAL ACTIVITY

Description	Quercetin dihydrate, a natural flavonoid, is a stimulator of recombinant SIRT1 and a PI3K inhibitor with IC ₅₀ s of 2.4 μM, 3.0 μM and 5.4 μM for PI3K γ, PI3K δ and PI3K β, respectively ^[1] .		
IC ₅₀ & Target	PI3Kγ 2.4 μM (IC ₅₀)	PI3Kβ 5.4 μM (IC ₅₀)	PI3Kδ 3.0 μM (IC ₅₀)
In Vitro	Quercetin dihydrate is a type of plant-based chemical, or phytochemical, used as an ingredient in supplements, beverages or foods. In several studies, it may have anti-inflammatory and antioxidant properties, and it is being investigated for a wide range of potential health benefits ^[1] .		

Quercetin dihydrate is a PI3K inhibitor with IC₅₀s of 2.4-5.4 μM. Quercetin dihydrate strongly abrogates PI3K and Src kinases, mildly inhibits Akt1/2, and slightly affected PKC, p38 and ERK1/2^[1]. Quercetin dihydrate inhibits TNF-induced LDH% release, EC-dependent neutrophils adhesion to bovine pulmonary artery endothelial cells (BPAEC), and BPAEC DNA synthesis and proliferation^[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Adv Funct Mater. 27 January 2022.
- Environ Pollut. 25 August 2021, 118036.
- Food Chem. 2022: 134807.
- Free Radic Biol Med. 2024 Jan 6:S0891-5849(24)00002-9.
- Cell Mol Gastroenterol Hepatol. 2022 Apr 2;14(1):75-99.

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REFERENCES

- [1]. Navarro-Núñez L, et al. Effect of quercetin on platelet spreading on collagen and fibrinogen and on multiple platelet kinases. Fitoterapia. 2010 Mar;81(2):75-80.
- [2]. Yu XB, et al. Inhibitory effects of protein kinase C inhibitors on tumor necrosis factor induced bovine pulmonary artery endothelial cell injuries. Yao Xue Xue Bao. 1996;31(3):176-81.
- [3]. Yang F, et al. Combination of Quercetin and 2-Methoxyestradiol Enhances Inhibition of Human Prostate Cancer LNCaP and PC-3 Cells Xenograft Tumor Growth. PLoS One. 2015 May 26;10(5):e0128277.

Caution: Product has not been fully validated for medical applications. For research use only.

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