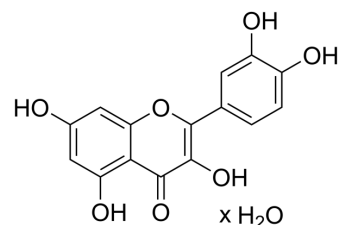


Quercetin hydrate

Cat. No.:	HY-18085A
CAS No.:	849061-97-8
Molecular Formula:	$C_{15}H_{10}O_7 \cdot x H_2O$
Target:	PI3K; Autophagy; Mitophagy; Apoptosis; Reactive Oxygen Species
Pathway:	PI3K/Akt/mTOR; Autophagy; Apoptosis; Immunology/Inflammation; Metabolic Enzyme/Protease; NF- κ B
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Quercetin hydrate, a natural flavonoid, is a stimulator of recombinant SIRT1 and also a PI3K inhibitor with IC_{50} of 2.4 μ M, 3.0 μ M and 5.4 μ M for PI3K γ , PI3K δ and PI3K β , respectively ^[1] .
IC_{50} & Target	IC_{50} : 2.4 \pm 0.6 μ M (PI3K γ), 3.0 \pm 0.0 μ M (PI3K δ), 5.4 \pm 0.3 μ M (PI3K β) ^[1]
In Vitro	<p>Quercetin hydrate 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. Quercetin hydrate is a PI3K inhibitor with IC_{50} of 2.4-5.4 μM. Quercetin hydrate strongly abrogates PI3K and Src kinases, mildly inhibits Akt1/2, and slightly affected PKC, p38 and ERK1/2^[1]. Quercetin hydrate inhibits TNF-induced LDH% release, EC-dependent neutrophils adhesion to bovine pulmonary artery endothelial cells (BPAEC), and BPAEC DNA synthesis and proliferation^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
In Vivo	<p>Combination of Quercetin hydrate (75 mg/kg) and 2-Methoxyestradiol enhances inhibition of human prostate cancer LNCaP and PC-3 cells xenograft tumor growth^[3].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

CUSTOMER VALIDATION

- Adv Funct Mater. 27 January 2022.
- Environ Pollut. 25 August 2021, 118036.
- Food Chem. 2022: 134807.
- Cell Mol Gastroenterol Hepatol. 2022 Apr 2;14(1):75-99.
- Antioxidants (Basel). 2022 Nov 11;11(11):2222.

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REFERENCES

[1]. Leyre Navarro-Núñez, 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.

[4]. Tao Liu, et al. Quercetin alleviates kidney fibrosis by reducing renal tubular epithelial cell senescence through the SIRT1/PINK1/mitophagy axis. *Life Sci*. 2020 Jul 20;118116.

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

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