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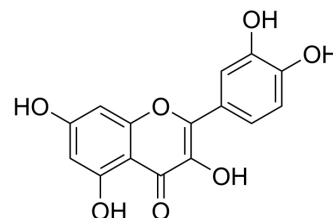
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Quercetin (GMP)

Cat. No.:	HY-18085G
CAS No.:	117-39-5
Molecular Formula:	C ₁₅ H ₁₀ O ₇
Molecular Weight:	302.24
Target:	PI3K; Autophagy; Mitophagy; Apoptosis; Reactive Oxygen Species
Pathway:	PI3K/Akt/mTOR; Autophagy; Apoptosis; Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Quercetin GMP is Quercetin (HY-18085) produced by using GMP guidelines. GMP small molecules works appropriately as an auxiliary reagent for cell therapy manufacture. Quercetin is a flavonoid antioxidant, a PI3K inhibitor and a SIRT1 Activator ^{[1][2][3][4][5][6]} .
In Vitro	<p>Quercetin GMP (10, 50 and 100 μM) increases osteogenesis of mesenchymal stem cells (mASCs)^[1].</p> <p>Quercetin GMP (0.1-10 μM) dose-dependently decreases osteoclastogenesis induced by RANKL^[2].</p> <p>Quercetin GMP (2 μM) dose-dependently enhances the osteogenic differentiation and angiogenic factor secretion of rat bone marrow-derived mesenchymal stem cells (rBMSCs)^[3].</p> <p>Quercetin GMP (2-5 μM) inhibits bone resorption via inhibiting the differentiation and activation of osteoclasts^[4].</p> <p>Quercetin (5 μM; 2-4 d) dose-dependently increases osteogenic differentiation^[5].</p> <p>Quercetin (0-5 μM; 6 d) increases osteoblastic differentiation and extracellular matrix production and mineralization^[6].</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.
- 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]. Zhou C, Lin Y. Osteogenic differentiation of adipose-derived stem cells promoted by quercetin. Cell Prolif. 2014 Apr;47(2):124-32.
- [2]. Wattel A, et al. Flavonoid quercetin decreases osteoclastic differentiation induced by RANKL via a mechanism involving NF kappa B and AP-1. J Cell Biochem. 2004 May 15;92(2):285-95.

[3]. Zhou Y, et al. The Effect of Quercetin on the Osteogenic Differentiation and Angiogenic Factor Expression of Bone Marrow-Derived Mesenchymal Stem Cells. PLoS One. 2015 Jun 8;10(6):e0129605.

[4]. Woo JT, et al. Quercetin suppresses bone resorption by inhibiting the differentiation and activation of osteoclasts. Biol Pharm Bull. 2004 Apr;27(4):504-9.

[5]. Kim YJ, et al. Quercetin, a flavonoid, inhibits proliferation and increases osteogenic differentiation in human adipose stromal cells. Biochem Pharmacol. 2006 Nov 15;72(10):1268-78.

[6]. Pang XG, et al. Quercetin Stimulates Bone Marrow Mesenchymal Stem Cell Differentiation through an Estrogen Receptor-Mediated Pathway. Biomed Res Int. 2018 Mar 15;2018:4178021.

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

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