3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

Quercetin dihydrate

Product Number **Q 0125**
Store at Room Temperature

Product Description

Molecular Formula: $C_{15}H_{10}O_7 \cdot 2H_2O$
Molecular Weight: 338.3
CAS Number: 6151-25-3
Extinction Coefficient: E^{mM} = 19.95 (257 nm, 95% ethanol) and 21.88 (376 nm, 95% ethanol)[1]
Synonyms: 3,3',4',5,7-Pentahydroxyflavone dihydate and 2-(3,4-Dihydroxyphenyl)-3,5,7-trihydroxy-4H-1-benzopyran-one dihydrate

Quercitin is a flavone which is a naturally occurring phenolic compound found in green plants. Flavonoids have been reported to contain a large spectrum of pharmacological properties. Some of their effects, including smooth muscle relaxation, anti-inflammatory, inotropic, and diuretic effects, are similar to inhibitors of cyclic nucleotide phosphodiesterase.[2] Quercitin is similar in activity to the mitochondrial ATPase inhibitor protein in that it inhibits both soluble and particulate mitochondrial ATPase and has no effect on oxidative phosphorylation in submitochondrial particles.[3]

Quercitin also inhibits the activity of a large number of different enzymes. Some examples include alcohol dehydrogenase, aldehyde reductase, arachidonate lipoxyygenase, carbonyl reductase, casein kinase, 3',5'-cyclic-nucleotide phosphodiesterase, protein kinase C, protein tyrosine kinase I, II, IIA, IIB, and III, phosphatidylinositol kinase, phosphorylase kinase, and pyruvate kinase.[4]

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in DMSO (24 mg/ml).

References

1. The Merck Index, 11th Ed., Entry# 8044.
2. Beretz, A., et al., Flavonoid compounds are potent inhibitors of cyclic AMP phosphodiesterase. Experientia, **34(8)**, 1054-1055 (1978).
3. Lang, D. R., and Racker, E., Effects of quercitin and F_1 inhibitor on mitochondrial ATPase and energy linked reactions in submitochondrial particles. Biochim. Biophys. Acta, **333**, 180-186 (1974).
4. Handbook of Enzyme Inhibitors, 2nd ed., Zollner, H., VCH (New York, NY: 1993), p. 938.

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