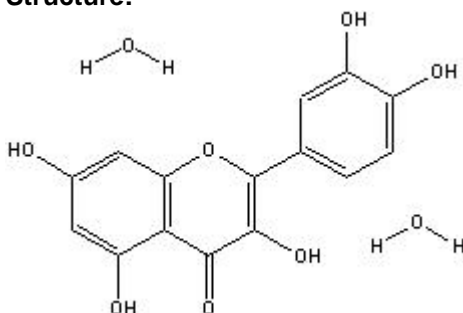


TECHNICAL INFORMATION

Catalog Number: 152003

Quercetin, dihydrate

Structure:



Molecular Formula: C₁₅H₁₀O₇·2H₂O

Molecular Weight: 338.3

CAS # 6151-25-3

Synonyms: 3,3',4',5,7-Pentahydroxyflavone; 2-(3,4-Dihydroxyphenyl)-3,5,7-trihydroxy-4H-1-benzopyran-4-one; Meletin; Sophoretin; Cyanidenolon 1522

Description: Inhibitor of protein tyrosine kinases. Inhibits mitochondrial ATPase^{2,7}, phosphodiesterase³, PI kinase and slightly inhibits PIP kinase^{4,5} activity. May arrest human leukemic T-cells in late G1 phase of the cell cycle.⁶ Has mutagenic activity in bacteria.⁸

Solubility: Soluble in alcohol (1 g/290 ml cold alcohol; 1 g/23 ml boiling alcohol); soluble in glacial acetic acid, aqueous alkaline solutions (50 mg/ml in 1 M NaOH - dark red solution). Insoluble in water.

References:

- Merck Index, **12th Ed.**, No. 8216.
- Bowman, B.J., et al., "Effects of inhibitors on the plasma membrane and mitochondrial adenosine triphosphatases of *Neurospora crassa*." *Biochim. Biophys. Acta*, **v. 512**, 13-28 (1978).
- Beretz, A., et al., "Flavonoid compounds are potent inhibitors of cyclic AMP phosphodiesterase." *Experientia*, **v. 34**, 1054 (1978).
- Singhal, R.L., et al., "Quercetin down-regulates signal transduction in human breast carcinoma cells." *Biochem. Biophys. Res. Commun.*, **v. 208**, 425-431 (1995).
- Yeh, Y.A., et al., "Quercetin: synergistic action with carboxyamidotriazole in human breast carcinoma cells." *Life Sci.*, **v. 57**, 1285-1292 (1995).
- Yoshida, M., et al., "Quercetin arrests human leukemic T-cells in late G1 phase of the cell cycle." *Cancer Res.*, **v. 52**, 6676-6681 (1992).
- Lang, D.R. and Racker, E., *Biochim. Biophys. Acta*, **v. 333**, 180 (1974).
- Bjeldanes, L.F. and Chang, G.W., *Science*, **v. 197**, 577 (1977).
- Erlund, I., et al., "Validated method for the quantitation of quercetin from human plasma using high-performance liquid chromatography with electrochemical detection." *J. of Chromatography B: Biomedical Sciences and Applications*, **v. 727:1-2**, 179-189 (1999).
- Nielsen, S.E. and Dragsted, L.O., "Column-switching high-performance liquid chromatographic assay for the determination of quercetin in human urine with ultraviolet absorbance detection." *Journal of Chromatography B: Biomedical Sciences and Applications*, **v. 707:1-2**, 81-89 (1998).
- Watson, D.G. and Oliveira, E.J., "Solid-phase extraction and gas chromatography-mass spectrometry determination of kaempferol and quercetin in human urine after consumption of Ginkgo biloba tablets." *Journal of Chromatography B: Biomedical Sciences and Applications*, **v. 723:1-2**, 203-210 (1999).
- Morrice, P.C, Wood, S.G. and Duthie, G.G., "High-performance liquid chromatographic determination of quercetin and isorhamnetin in rat tissues using beta-glucuronidase and acid hydrolysis." *Journal of Chromatography B: Biomedical Sciences and Applications*, **v. 738:2**, 413-417 (2000).
- Bodini, M.E., et al., "Iron complexes of quercetin in aprotic medium. Redox chemistry and interaction with superoxide anion radical." *Polyhedron*, **v. 18:17**, 2233-2239 (1999).
- Falkovskaia, E., Sengupta, P.K. and Kasha, M., "Photophysical induction of dual fluorescence of quercetin and related hydroxyflavones upon intermolecular H-bonding to solvent matrix." *Chemical Physicas Letters*, **v. 297:1-2**, 109-114 (1998).
- Careri, M., Elviri, L., Mangia, A., Musci, M., "Spectrophotometric and coulometric detection in the high-performance liquid chromatography of flavonoids and optimization of sample treatment for the determination of quercetin in orange juice." *Journal*

