Quercetin (hydrate)

Item No. 10005169

CAS Registry No.: 849061-97-8
Formal Name: 2-(3,4-dihydroxyphenyl)-3,5,7-trihydroxy-4H-1-benzopyran-4-one, hydrate
MF: C_{15}H_{10}O_{7} • XH_{2}O
FW: 302.2
Purity: ≥95%
UV/Vis.: \( \lambda_{\text{max}}: 256, 368 \) nm
Supplied as: A crystalline solid
Storage: Room temperature
Stability: ≥2 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Quercetin (hydrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the quercetin (hydrate) in the solvent purged with an inert gas. Quercetin (hydrate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of quercetin (hydrate) in these solvents is approximately 2 mg/ml in ethanol and 30 mg/ml in DMSO and DMF.

Quercetin (hydrate) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, quercetin (hydrate) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Quercetin (hydrate) has a solubility of approximately 1 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Quercetin is an abundant flavonoid that has been isolated from a variety of fruits and vegetables and has diverse biological activities, including antioxidant, anticancer, and anti-inflammatory properties.\(^1\)\(^-\)\(^3\) Quercetin (5-100 mg/kg) reduces autophagy, decreases the levels of reactive oxygen species (ROS) and malondialdehyde (MDA) content, and increases total antioxidant capacity in the kidney in a mouse model of cadmium-induced autophagy.\(^2\) It reduces tumor growth, induces apoptosis, and halts the cell cycle at the \( G_1 \) phase in an HL60 mouse xenograft model when administered at a dose of 120 mg/kg every four days.\(^1\) Quercetin (30 \( \mu \)M) also inhibits histamine release from antigen-stimulated RBL-2H3 cells and decreases the expression of TNF-\( \alpha \), IL-1\( \beta \), IL-6, and IL-8 induced by PMACI in HMC-1 cells.\(^3\)

References