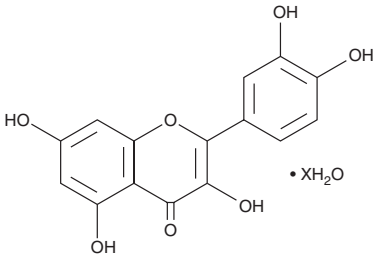
PRODUCT INFORMATION

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:	$C_{15}H_{10}O_7 \bullet XH_2O$
FW:	302.2
Purity:	≥95%
UV/Vis.:	λ_{max}: 256, 368 nm
Supplied as:	A crystalline solid
Storage:	Room temperature
Stability:	≥4 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 µM) also inhibits histamine release from antigen-stimulated RBL-2H3 cells and decreases the expression of TNF-α, IL-1β, IL-6, and IL-8 induced by PMACI in HMC-1 cells.[3]

References

1. Calgarotto, A.K., Maso, V., Junior, G.C.F., *et al*. Antitumor activities of quercetin and green tea in xenografts of human leukemia HL60 cells. *Sci. Rep.* **8(1)**, 3459 (2018).
2. Yuan, Y., Ma, S., Qi, Y., *et al*. Quercetin inhibited cadmium-induced autophagy in the mouse kidney via inhibition of oxidative stress. *J. Toxicol. Pathol.* **29(4)**, 247-252 (2016).
3. Park, H.H., Lee, S., Son, H.Y., *et al*. Flavonoids inhibit histamine release and expression of proinflammatory cytokines in mast cells. *Arch. Pharm. Res.* **31(10)**, 1303-1311 (2008).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

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