# PRODUCT INFORMATION

## Quercetin-$d_3$ (hydrate)

*Item No. 26418*

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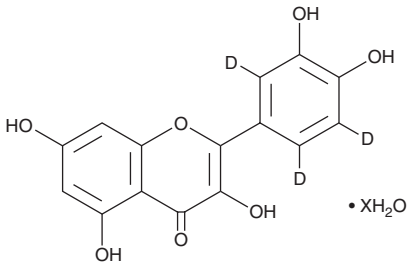
|---|---|
| **Formal Name:** | 2-(4,5-dihydroxyphenyl-2,3,6-$d_3$)-3,5,7-trihydroxy-4H-1-benzopyran-4-one, hydrate |
| **MF:** | $C_{15}H_7D_3O_7 \bullet XH_2O$ |
| **FW:** | 305.3 |
| **Chemical Purity:** | ≥95% (Quercetin) |
| **Deuterium Incorporation:** | ≥99% deuterated forms ($d_1$-$d_3$); ≤1% $d_0$ |
| **Supplied as:** | A solid |
| **Storage:** | -20°C |
| **Stability:** | ≥4 years |
| **Item Origin:** | Synthetic |




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

### Laboratory Procedures

Quercetin-$d_3$ (hydrate) is intended for use as an internal standard for the quantification of quercetin (Item No. 10005169) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Quercetin-$d_3$ (hydrate) is supplied as a solid. A stock solution may be made by dissolving the quercetin-$d_3$ (hydrate) in the solvent of choice, which should be purged with an inert gas. Quercetin-$d_3$ (hydrate) is slightly soluble in DMSO and methanol.

### Description

Quercetin is an abundant flavonoid that has been isolated from a variety of plants 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).





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