



# SZABO SCANDIC

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## Produktinformation



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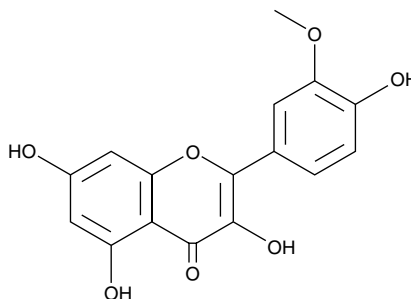
# Product Information



## Isorhamnetin

Item No. 16496

**CAS Registry No.:** 480-19-3  
**Formal Name:** 3,5,7-trihydroxy-2-(4-hydroxy-3-methoxyphenyl)-4H-1-benzopyran-4-one  
**Synonym:** 3'-O-methyl Quercetin  
**MF:** C<sub>16</sub>H<sub>12</sub>O<sub>7</sub>  
**FW:** 316.3  
**Purity:** ≥98%  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A crystalline solid  
**UV/Vis.:** λ<sub>max</sub>: 204, 255, 367 nm



### Laboratory Procedures

For long term storage, we suggest that isorhamnetin be stored as supplied at -20°C. It should be stable for at least two years.

Isorhamnetin is supplied as a crystalline solid. A stock solution may be made by dissolving the isorhamnetin in the solvent of choice. Isorhamnetin is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of isorhamnetin in these solvents is approximately 20 and 10 mg/ml, respectively.

Isorhamnetin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, isorhamnetin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Isorhamnetin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Isorhamnetin is a natural flavonol aglycone that is the 3-methyl metabolite of quercetin (Item No. 10005169). It has antioxidant activity and inhibits xanthine oxidase (IC<sub>50</sub> = 0.40 μM).<sup>1</sup> Isorhamnetin also competitively inhibits the human multidrug and toxic compounds extrusion transporter 1 (K<sub>i</sub> = 0.32 μM), which has an important role in the excretion of xenobiotics at the kidney and liver.<sup>2</sup> It has also been reported to potentiate the neurological actions of nerve growth factor, diminish the cardiotoxic impact of doxorubicin, and have beneficial anti-cancer effects.<sup>3-6</sup>

### References

1. Nagao, A., Seki, M., and Kobayashi, H. Inhibition of xanthine oxidase by flavonoids. *Biosci. Biotechnol. Biochem.* **63(10)**, 1787-1790 (1999).
2. Kawasaki, T., Ito, H., and Omote, H. Components of foods inhibit a drug exporter, human multidrug and toxin extrusion transporter 1. *Biol. Pharm. Bull.* **37(2)**, 292-297 (2014).
3. Xu, S.L., Choi, R.C.Y., Zhu, K.Y., *et al.* Isorhamnetin, a flavonol aglycone from *Ginkgo biloba* L., induces neuronal differentiation of cultured PC12 cells: Potentiating the effect of nerve growth factor. *Evid. Based Complement. Alternat. Med.* **2012**, 1-12 (2012).
4. Sun, J., Sun, G., Meng, X., *et al.* Isorhamnetin protects against doxorubicin-induced cardiotoxicity *in vivo* and *in vitro*. *PLoS One* **8(5)**, 1-14 (2014).
5. Ramachandran, L., Manu, K.A., Shanmugam, M.K., *et al.* Isorhamnetin inhibits proliferation and invasion and induces apoptosis through the modulation of peroxisome proliferator-activated receptor γ activation pathway in gastric cancer. *J. Biol. Chem.* **287(45)**, 38028-38040 (2012).
6. Saud, S.M., Young, M.R., Jones-Hall, Y.L., *et al.* Chemopreventive activity of plant flavonoid isorhamnetin in colorectal cancer is mediated by oncogenic Src and β-catenin. *Cancer Res.* **73(17)**, 5473-5484 (2013).

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