

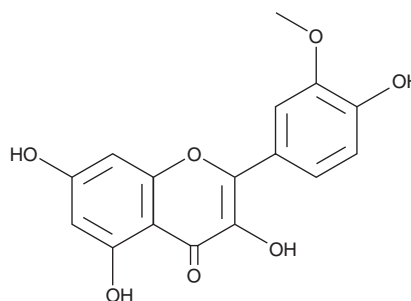
PRODUCT INFORMATION



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: C₁₆H₁₂O₇
FW: 316.3
Purity: ≥98%
UV/Vis.: λ_{max}: 204, 255, 367 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Isorhamnetin is supplied as a crystalline solid. A stock solution may be made by dissolving the isorhamnetin in the solvent of choice, which should be purged with an inert gas. Isorhamnetin is soluble in organic solvents such as DMSO and dimethyl formamide. 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.

Description

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 (IC₅₀ = 0.40 μM).¹ Isorhamnetin also competitively inhibits the human multidrug and toxic compounds extrusion transporter 1 (K_i = 0.32 μM), which has an important role in the excretion of xenobiotics at the kidney and liver.² 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.³⁻⁶

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.* 278273 (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).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/08/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM