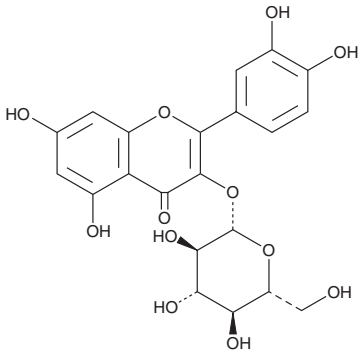
PRODUCT INFORMATION

Isoquercetin

Item No. 24926

CAS Registry No.:	482-35-9
Formal Name:	2-(3,4-dihydroxyphenyl)-3-(β-D-glucopyranosyloxy)-5,7-dihydroxy-4H-1-benzopyran-4-one
Synonyms:	NSC 115918, Quercetin 3-β-D-glucoside, Quercetin 3-O-glucoside
MF:	$C_{21}H_{20}O_{12}$
FW:	464.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 257, 359 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Apocynum venetum*



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

Laboratory Procedures

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

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of isoquercetin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of isoquercetin in PBS (pH 7.2) is approximately 0.3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Isoquercetin is a flavonoid that has been isolated from *A. venetum* and has diverse biological activities, including antiviral, anti-apoptotic, and neuroprotective properties.[1-3] It reduces viral titers of H5N1 influenza isolates by 79.66% in a plaque assay when used at a concentration of 1 ng/ml.[1] It inhibits apoptosis, increases cell viability, and decreases the level of reactive oxygen species (ROS) in an oxygen-glucose deprivation/reoxygenation assay when used at concentrations of 25, 50, and 100 µg/ml in primary rat hippocampal neurons and decreases TNF-α-induced cell death in primary mouse hepatocytes (IC_{50} = 37.5 µM).[2,3] Isoquercetin (50 mg/kg) is neuroprotective in a rat model of middle cerebral artery occlusion (MCAO), reducing infarct volume and neurological symptoms, as well as increasing hippocampal expression of Nrf2 and phosphorylation of ERK1/2.[2]

References

1. Ibrahim, A.K., Youssef, A.I., Arafa, A.S., *et al.* Anti-H5N1 virus flavonoids from *Capparis sinaica* Veill. *Nat. Prod. Res.* **27(22)**, 2149-2153 (2013).
2. Chen, M., Dai, L.-H., Fei, A., *et al.* Isoquercetin activates the ERK1/2-Nrf2 pathway and protects against cerebral ischemia-reperfusion injury *in vivo* and *in vitro*. *Exp. Ther. Med.* **13(4)**, 1353-1359 (2017).
3. Xiong, Q., Fan, W., Tezuka, Y., *et al.* Hepatoprotective effect of *Apocynum venetum* and its active constituents. *Planta Med.* **66(2)**, 127-133 (2000).

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