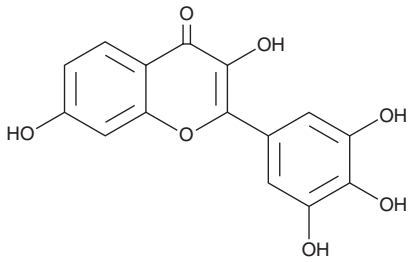
PRODUCT INFORMATION

Robinetin

Item No. 35272

CAS Registry No.:	490-31-3
Formal Name:	3,7-dihydroxy-2-(3,4,5-trihydroxyphenyl)-4H-1-benzopyran-4-one
Synonyms:	NSC 407331, NSC 656274, 3,7,3′,4′,5′-Pentahydroxyflavone
MF:	$C_{15}H_{10}O_7$
FW:	302.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 367 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/Unspecified sp.



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

Laboratory Procedures

Robinetin is supplied as a solid. A stock solution may be made by dissolving the robinetin in the solvent of choice, which should be purged with an inert gas. Robinetin is soluble in the organic solvent DMSO at a concentration of approximately 10 mg/ml. Robinetin is slightly soluble in dimethyl formamide.

Description

Robinetin is a flavonol that has been found in *R. pseudacacia* and has diverse biological activities.[1-5] It inhibits NADH oxidase with an IC_{50} value of 19 nmol/mg of protein in isolated beef heart mitochondria.[2] Robinetin scavenges DPPH (Item No. 14805) radicals in a cell-free assay and inhibits glutathione S-transferase (GST; IC_{50} = 1.39 µM for the equine liver enzyme).[3,4] It also inhibits multidrug resistance-associated protein 1 (MRP1) and MRP2 in MDCK-II cells (IC_{50}s = 13.6 and 15 µM, respectively, for the human proteins).[5]

References

1. Charlesworth, E.H. and Robinson, R. Anthoxanthins. Part XIII. Synthesis of a colouring matter of *Robinia pseudacacia*. *J. Chem.* Soc. 268-270 (1933).
2. Hodnick, W.F., Duval, D.L., and Pardini, R.S. Inhibition of mitochondrial respiration and cyanide-stimulated generation of reactive oxygen species by selected flavonoids. *Biochem. Pharmacol.* **47(3)**, 573-580 (1994).
3. Hyun, J., Woo, Y., Hwang, D.-S., *et al.* Relationships between structures of hydroxyflavones and their antioxidative effects. *Bioorg. Med. Chem. Lett.* **20(18)**, 5510-5513 (2010).
4. Boušová, I., Hájek, J., Dršata, J., *et al.* Naturally occurring flavonoids as inhibitors of purified cytosolic glutathione S-transferase. *Xenobiotica* **42(9)**, 872-879 (2012).
5. van Zanden, J.J., Wortelboer, H.M., Bijlsma, S., *et al.* Quantitative structure activity relationship studies on the flavonoid mediated inhibition of multidrug resistance proteins 1 and 2. *Biochem. Pharmacol.* **69(4)**, 699-708 (2005).

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