

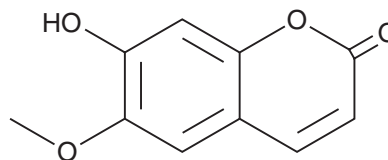
PRODUCT INFORMATION



Scopoletin

Item No. 20042

CAS Registry No.: 92-61-5
Formal Name: 7-hydroxy-6-methoxy-2H-1-benzopyran-2-one
Synonyms: Esculetin 6-methyl ether,
7-Hydroxy-6-methoxycoumarin,
6-Methoxy-7-hydroxycoumarin, NSC 405647
MF: C₁₀H₈O₄
FW: 192.2
Purity: ≥98%
UV/Vis.: λ_{max}: 229, 254, 298, 346 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

Scopoletin is supplied as a crystalline solid. A stock solution may be made by dissolving the scopoletin in the solvent of choice, which should be purged with an inert gas. Scopoletin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of scopoletin in ethanol is approximately 2 mg/ml and approximately 30 and 50 mg/ml in DMSO and DMF.

Scopoletin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, scopoletin should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Scopoletin has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Scopoletin is a natural coumarin found in a variety of plants, including some species from the genus *Scopolia*. Like esculetin (Item No. 19286), scopoletin binds iron and is used by plants to acquire iron from alkaline soil.¹ Scopoletin inhibits aldose reductase activity in galactose-fed rats, upregulates PPARγ expression, and triggers phosphorylation of Nrf2 in animals.²⁻⁴

References

1. Clemens, S., and Weber, M. The essential role of coumarin secretion for Fe acquisition from alkaline soil. *Plant Signal. Behav.* **11**(2), 2016.
2. Chang, W. C., Wu, S. C., Xu, K. D. *et al.* Scopoletin protects against methylglyoxal-induced hyperglycemia and insulin resistance mediated by suppression of advanced glycation endproducts (AGEs) generation and anti-glycation. *Molecules* **20**(2), 2786-2801 (2015).
3. Kim, J., Kim, C. S., Lee, Y. M., *et al.* Scopoletin inhibits rat aldose reductase activity and cataractogenesis in galactose-fed rats. *Evid. Based Complement. Alternat. Med.* **2013**:787138, (2013).
4. Zhang, W. Y., Lee, J. J., Kim, Y., *et al.* Amelioration of insulin resistance by scopoletin in high-glucose-induced, insulin-resistant HepG2 cells. *Horm. Metab. Res.* **42**(13), 930-935 (2010).

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.

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