# **PRODUCT** INFORMATION



## Isoscopoletin

Item No. 34117

CAS Registry No.:	776-86-3
Formal Name:	6-hydroxy-7-methoxy-2H-1-benzopyran-2-one
Synonyms:	Esculetin 7-methyl ether,
	7-methoxy-6-Hydroxycoumarin,
	7-Methoxyesculetin
MF:	$C_{10}H_8O_4$
FW:	192.2
Purity:	≥98%
UV/Vis.:	λ <sub>max</sub> : 231 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/Erigeron breviscapus
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.	

#### Laboratory Procedures

Isoscopoletin is supplied as a solid. A stock solution may be made by dissolving the isoscopoletin in the solvent of choice, which should be purged with an inert gas. Isoscopoletin is soluble in the organic solvent chloroform at a concentration of approximately 1 mg/ml.

#### Description

Isoscopoletin is a coumarin that has been found in D. fragrans and has diverse biological activities and is an active metabolite of scoparone (Item No. 20046).<sup>1-5</sup> It is formed from scoparone by the cytochrome P450 (CYP) isoform Cyp2c29 in mouse liver microsomes.<sup>5</sup> Isoscopoletin is cytotoxic to A549 lung, MCF-7 breast, and HepG2 liver cancer cells (IC<sub>50</sub>s = 5.25, 8.58, and 4.76  $\mu$ M, respectively).<sup>1</sup> It is active against Gram-positive and Gram-negative bacteria, including S. aureus and E. coli, respectively, in agar diffusion assays.<sup>2</sup> Isoscopoletin inhibits 15-lipoxygenase (15-LO; IC<sub>50</sub> = 15.1  $\mu$ M) and reduces paw thickness in a rat model of carrageenan-induced paw edema when administered at a dose of 0.1 mg/kg.<sup>3,4</sup>

#### References

- 1. Zhao, D.-D., Zhao, Q.-S., Liu, L., et al. Compounds from Dryopteris fragrans (L.) Schott with cytotoxic activity. Molecules 19(3), 3345-3355 (2014).
- 2. Nazir, S., Li, B., Tahir, K., et al. Antimicrobial activity of five constituents isolated from Ranunculus muricatus. J. Med. Plants Res. 7(47), 3438-3443 (2013).
- 3. Deng, S., Palu, 'A.K., West, B.J., et al. Lipoxygenase inhibitory constituents of the fruits of noni (Morinda citrifolia) collected in Tahiti. J. Nat. Prod. 70(5), 859-862 (2007).
- 4 Selim, Y.A. and Ouf, N.H. Anti-inflammatory new coumarin from the Ammi majus L. Org. Med. Chem. Lett. 2(1), 1 (2012).
- 5. Meyer, R.P., Hagemeyer, C.E., Knoth, R., et al. Oxidative hydrolysis of scoparone by cytochrome P450 CYP2C29 reveals a novel metabolite. Biochem. Biophys. Res. Commun. 285(1), 32-39 (2001).

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

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