

## Product Information

Product ID I4962  
CAS No. 482-45-1

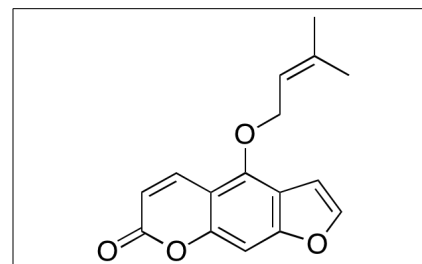
**Chemical Name**

**Synonym**

Formula  $C_{16}H_{14}O_4$   
Formula Wt. 270.28  
Melting Point  
Purity  $\geq 98\%$   
Solubility

Store Temp Ambient  
Ship Temp Ambient

**Description** Isoimperatorin is a furocoumarin compound that exhibits anticancer chemotherapeutic, chemopreventive, anti-inflammatory, and antibacterial activities. In vitro, isoimperatorin induces cell cycle arrest at the G2/M phase and inhibits cell proliferation in melanoma cells; separately, it prevents activation of carcinogens such as PBTA-4 and MeIQ. In vivo, isoimperatorin decreases tumor growth and tumor weight when combined with UVA irradiation. In cellular models, this compound decreases expression of ROS and vascular cellular adhesion molecule 1 (VCAM-1), increases expression of PPAR- $\gamma$ , and inhibits NF- $\kappa$ B-induced phosphorylation of Akt, ERK, and PKC. In other cell lines, isoimperatorin inhibits activity of cyclooxygenase (COX-2), preventing production of leukotriene C4 and degranulation of bone marrow-derived mast cells. Additionally, isoimperatorin exhibits activity against both gram positive and gram negative bacteria.



**Bulk quantities available upon request**

Product ID	Size
I4962	5 mg
I4962	25 mg
I4962	100 mg

**References** Kimura Y, Sumiyoshi M, Sakanaka M, et al. In vitro and in vivo antiproliferative effect of a combination of ultraviolet-A and alkoxy furocoumarins isolated from Umbelliferae medicinal plants, in melanoma cells. *Photochem Photobiol.* 2013 Sep-Oct;89(5):1216-25. PMID: 23802687.

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Moon L, Ha YM, Jang HJ, et al. Isoimperatorin, cimicide E and 23-O-acetylshengmanol-3-xyloside from *Cimicifugae* rhizome inhibit TNF- $\alpha$ -induced VCAM-1 expression in human endothelial cells: involvement of PPAR- $\gamma$  upregulation and PI3K, ERK1/2, and PKC signal pathways. *J Ethnopharmacol.* 2011 Jan 27;133(2):336-44. PMID: 20937376.

Widelski J, Popova M, Graikou K, et al. Coumarins from *Angelica lucida* L.--antibacterial activities. *Molecules.* 2009 Jul 27;14(8):2729-34. PMID: 19701119.

Tang SY, Wang H, Zhang W, et al. *Notopterygium forbesii* boiss extract and its active constituents increase reactive species and heme oxygenase-1 in human fetal hepatocytes: mechanisms of action. *Chem Res Toxicol.* 2008 Dec;21(12):2414-23. PMID: 19548360.

Moon TC, Jin M, Son JK, et al. The effects of isoimperatorin isolated from *Angelicae dahuricae* on cyclooxygenase-2 and 5-lipoxygenase in mouse bone marrow-derived mast cells. *Arch Pharm Res.* 2008 Feb;31(2):210-5. PMID: 18365692.

**Caution:** This product is intended for laboratory and research use only. It is not for human or drug use.