

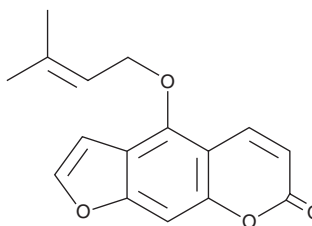
PRODUCT INFORMATION



Isoimperatorin

Item No. 19851

CAS Registry No.: 482-45-1
Formal Name: 4-[(3-methyl-2-buten-1-yl)oxy]-7H-furo[3,2-g][1]benzopyran-7-one
MF: C₁₆H₁₄O₄
FW: 270.3
Purity: ≥98%
UV/Vis.: λ_{max}: 221, 250, 259, 268, 309 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

Isoimperatorin is supplied as a crystalline solid. A stock solution may be made by dissolving the isoimperatorin in the solvent of choice. Isoimperatorin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of isoimperatorin in these solvents is approximately 10, 20, and 30 mg/ml, respectively.

Isoimperatorin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, isoimperatorin should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Isoimperatorin has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Isoimperatorin is a natural furanocoumarin that can be isolated from a variety of plant parts. It inhibits cytochrome P450 (CYP) isoform 1A activity, in particular blocking hepatic ethoxyresorufin O-dealkylase activity.^{1,2} Through its effects on CYP1A, isoimperatorin reduces the metabolism of polycyclic aromatic hydrocarbons and aflatoxin B₁ (Item No. 11293) to reactive metabolites.^{1,2} Isoimperatorin also induces the expression of glutathione S-transferase α by activating Nrf2.²

References

1. Cai, Y., Bennett, D., R. V. Nair, R. V., *et al.* Inhibition and inactivation of murine hepatic ethoxy- and pentoxyresorufin O-dealkylase by naturally occurring coumarins. *Chem. Res. Toxicol.* **6(6)**, 872-879 (1993).
2. Cai, Y., Baer-Dubowska, W., Ashwood-Smith, M., *et al.* Inhibitory effects of naturally occurring coumarins on the metabolic activation of benzo[a]pyrene and 7,12-dimethylbenz[a]anthracene in cultured mouse keratinocytes. *Carcinogenesis* **18(1)**, 215-222 (1997).
3. Pokaharel, Y. R., Han, E. H., Kim, J. Y., *et al.* Potent protective effect of isoimperatorin against aflatoxin B1-inducible cytotoxicity in H4IIE cells: bifunctional effects on glutathione S-transferase and CYP1A. *Carcinogenesis* **27(12)**, 2483-2490 (2006).

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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/22/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM