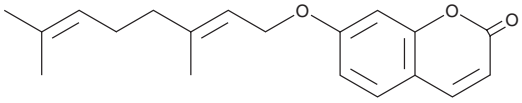
PRODUCT INFORMATION

Auraptene

Item No. 14000

CAS Registry No.: 495-02-3
Formal Name: 7-[[(2E)-3,7-dimethyl-2,6-octadien-1-yl]oxy]-2H-1-benzopyran-2-one
Synonym: 7-Geranyloxycoumarin
MF: $C_{19}H_{22}O_3$
FW: 298.4
Purity: ≥98%
UV/Vis.: λ_{max}: 323 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

Auraptene is supplied as a crystalline solid. A stock solution may be made by dissolving the auraptene in the solvent of choice, which should be purged with an inert gas. Auraptene is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of auraptene in DMF is approximately 14 mg/ml and approximately 12 mg/ml in ethanol and DMSO.

Auraptene is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, auraptene should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Auraptene has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Auraptene is a coumarin derived from citrus plants that bears a geranyloxyl moiety at its C-7. It has anti-inflammatory, anti-carcinogenic, anti-bacterial, neuroprotective, and hepatoprotective activities.[1-5] It inhibits leukocyte activation and induces phase II enzymes during the initiation phase of carcinogenesis.[1] When examined for its potential use in Alzheimer's disease treatment, auraptene was shown to inhibit β-secretase (BACE1) activity with an IC_{50} value of 345.1 µM.[6]

References

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2. Krishnan, P., Yan, K.J., Windler, D., *et al.* Citrus auraptene suppresses cyclin D1 and significantly delays N-methyl nitrosourea induced mammary carcinogenesis in female Sprague-Dawley rats. *BMC Cancer* **9**, (2009).
3. Takeda, K., Utsunomiya, H., Kakiuchi, S., *et al.* Citrus auraptene reduces *Helicobacter pylori* colonization of glandular stomach lesions in Mongolian gerbils. *J. Oleo Sci.* **56(5)**, 253-260 (2007).
4. Furukawa, Y., Watanabe, S., Okuyama, S., *et al.* Neurotrophic effect of Citrus auraptene: Neuritogenic activity in PC12 cells. *Int. J. Mol. Sci.* **13**, 5338-5347 (2012).
5. Sahebkar, A. Citrus auraptene: A potential multifunctional therapeutic agent for nonalcoholic fatty liver disease. *Ann. Hepatol.* **10(4)**, 575-577 (2011).
6. Marumoto, S. and Miyazawa, M. Structure-activity relationships for naturally occurring coumarins as β-secretase inhibitor. *Bioorg. Med. Chem.* **20(2)**, 784-788 (2012).

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