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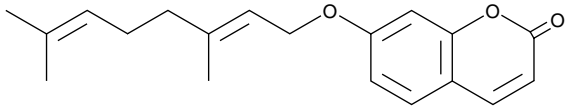
Product Information

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%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 323 nm



Laboratory Procedures

For long term storage, we suggest that auraptene be stored as supplied at -20°C. It should be stable for at least two years.

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

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.

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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