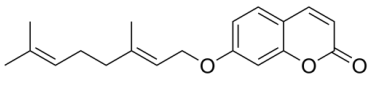
Data Sheet

Product Name:	Auraptene
Cat. No.:	CS-0022591
CAS No.:	495-02-3
Molecular Formula:	$C_{19}H_{22}O_3$
Molecular Weight:	298.38
Target:	Bacterial; MMP; PPAR
Pathway:	Anti-infection; Cell Cycle/DNA Damage; Metabolic Enzyme/Protease; Vitamin D Related/Nuclear Receptor
Solubility:	DMSO : 50 mg/mL (ultrasonic)



BIOLOGICAL ACTIVITY:

Auraptene is an orally active geranyloxycoumarin that can be isolated from plants in the Brassicaceae family, antibacterial, anti-pathogen, antioxidant, anti-tumor, and neuroprotective effects. Auraptene plays an important role in the treatment of various chronic diseases such as hypertension and cystic fibrosis[1][2].

In Vitro:Auraptene (0-20 μM, 2 h) reduces the secretion of inflammatory mediators stimulated by lipopolysaccharides in oral epithelial cells and promotes wound healing by promoting cell migration[1].

Auraptene (10 μM, 24 h) inhibits the cell cycle progression of human breast cancer cell line MCF-7 by reducing the expression of cyclin D1 protein and inhibiting IGF-1[2].

Auraptene (10 μM, 4 days) exhibits antiviral activity against human coronavirus OC43 in MRC-5 cells[6].

Auraptene (25-400 μM) protects red blood cells from free radical induced damage by preventing the consumption of intracellular antioxidant GSH and inhibiting protein peroxidation[7].

In Vivo:Auraptene (200, 500 ppm, mixed in the diet, p.o.) delays the tumor progression of breast cancer rats by inhibiting cyclin D1 protein[3].

Auraptene (100, 500 ppm, mixed in the diet, p.o.) alleviates gastritis by reducing Helicobacter pylori colonization and pro-inflammatory mediator production in C57BL/6 mice[4].

Auraptene (5, 50 mg/kg, 6 weeks, p.o.) prevents heart failure caused by myocardial infarction by activating peroxisome proliferator activated receptor alpha (PPAR alpha) in rats [5].

Auraptene (2, 4, 8, 16 mg/kg, 5 weeks, p.o.) exhibits anti hypertensive effects in hypertensive rats by reducing mean systolic blood pressure[8].

References:

[1]. La VD, et al. Anti-inflammatory and wound healing potential of citrus auraptene. J Med Food. 2013 Oct;16(10):961-4.

[2]. Krishnan P, et al. Effects of Auraptene on IGF-1 Stimulated Cell Cycle Progression in the Human Breast Cancer Cell Line, MCF-7. Int J Breast Cancer. 2012;2012:502092.

[3]. Krishnan P, et al. Citrus auraptene suppresses cyclin D1 and significantly delays N-methyl nitrosourea induced mammary carcinogenesis in female Sprague-Dawley rats. BMC Cancer. 2009 Jul 29;9:259.

[4]. Sekiguchi H, et al. Auraptene attenuates gastritis via reduction of Helicobacter pylori colonization and pro-inflammatory mediator production in C57BL/6 mice. J Med Food. 2012 Jul;15(7):658-63.

[5]. Sunagawa Y, et al. Auraptene, a citrus peel-derived natural product, prevents myocardial infarction-induced heart failure by activating PPARα in rats. Phytomedicine. 2022 Dec;107:154457.

[6]. Min JS, et al. Auraptene Has Antiviral Activity against Human Coronavirus OC43 in MRC-5 Cells. Nutrients. 2023 Jun 29;15(13):2960.

[7]. Jamialahmadi K, et al. Protective Effects of Auraptene against Free Radical-Induced Erythrocytes Damage. J Pharmacopuncture. 2022 Dec 31;25(4):344-353.

[8]. Razavi BM, et al. Antihypertensive effect of auraptene, a monoterpene coumarin from the genus Citrus, upon chronic administration. Iran J Basic Med Sci. 2015 Feb;18(2):153-8.

CAIndexNames:

2H-1-Benzopyran-2-one, 7-[[(2E)-3,7-dimethyl-2,6-octadien-1-yl]oxy]-

SMILES:

O=C1C=CC2=CC=C(OC/C=C(C)/CC/C=C(C)/C)C=C2O1

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