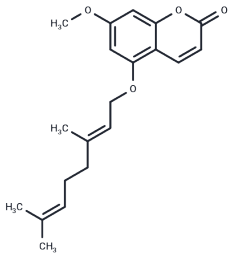
Data Sheet (Cat.No.TN3110)

TargetMol

5-Geranoxy-7-methoxycoumarin

Chemical Properties



CAS No. : 7380-39-4

Formula: C20H24O4

Molecular Weight: 328.4

Storage: Store at low temperature
Pure form: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	5-Geranoxy-7-methoxycoumarin shows antifungal activity.
Targets(IC50)	Anti-infection,Antibacterial,Antifungal
In vitro	Two mechanisms of the resistance of citrus fruits against pathogens-preformed and induced antifungal materials-were investigated. METHODS AND RESULTS: Flavedo tissue of lemon contains the following preformed antifungal materials: citral, limettin, 5-Geranoxy-7-methoxycoumarin, and isopimpinellin, which act as the first line of defense against pathogens. Exogenous application of citral to Penicillium-inoculated lemon fruit prevented development of decay. Being subjected to fungal challenge and/or abiotic stress, citrus fruits are elicited to produce the phytoalexin scoparone, considered as another line of fruit defense. According to median effective dose (ED50) of the inhibition of germ-tube elongation or percent germination, scoparone had higher fungitoxicity against Penicillium digitatum Sacc. than the preformed antifungal materials. Different citrus species (lemon, orange, grapefruit, lime, kumquat) varied in their capacities to produce scoparone responding to the combined Penicillium inoculation and heat treatment or to UV illumination. UV illumination of lemon fruit reduced its susceptibility to P. digitatum. CONCLUSIONS: Expression of this effect was directly related to the level of scoparone in illuminated fruit. UV light and citral application were visibly injurious to the flavedo tissues in high dose.

Solubility Information

Solubility	DMSO: 3.29 mg/mL (10.02 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.0451 mL	15.2253 mL	30.4507 mL
5 mM	0.609 mL	3.0451 mL	6.0901 mL
10 mM	0.3045 mL	1.5225 mL	3.0451 mL
50 mM	0.0609 mL	0.3045 mL	0.609 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Preformed and induced antifungal materials of citrus fruits in relation to the enhancement of decay resistance by heat and ultraviolet treatments. Journal of Agricultural and Food Chemistry, 1992, 40(7):1217-1221.
Li S, Kelly C, Knob R, et al.Analysis of Coumarin-Based Phototoxins in Citrus-Derived Essential Oils Using Liquid Chromatography-Mass Spectrometry.Chromatographia.2023: 1-11.