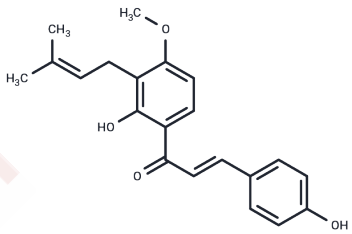
Data Sheet (Cat.No.T10146)

TargetMol

4-Hydroxyderricin

Chemical Properties



CAS No. : 55912-03-3

Formula: C21H22O4

Molecular Weight: 338.4

Storage: Keep away from moisture,Keep away from direct sunlight
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	4-Hydroxyderricin, a potent and selective MAO-B inhibitor (IC50: 3.43 μM), is the main active ingredient of Angelica keiskei root, which mildly inhibits dopamine β-hydroxylase (DBH) activity and possesses antidepressant activity.
Targets(IC50)	Apoptosis,MAO,Dehydrogenase,Hydroxylase,Monoamine Oxidase
In vitro	4-Hydroxyderricin (100 microM) inhibited DNA synthesis in LLC cells, but it had no effect on the DNA synthesis in human umbilical vein endothelial cells (HUVECs) or on the adherence of LLC cells to HUVECs. 4-hydroxyderricin (50 mg/kg x 2/day) inhibited the reduction of the numbers of lymphocytes, CD4+, CD8+ and natural killer (NK)-T cells in the spleen of tumor-removed mice.[2]
In vivo	4-Hydroxyderricin (50 mg/kg x 2/day; oral) inhibited the tumor growth in subcutaneous LLC-implanted mice and inhibited the lung metastasis and prolonged the survival time in mice after the removal of subcutaneous tumors by surgical operation.[2] 4-Hydroxyderricin (10 to 100 microM) inhibited Matrigel-induced formation of capillary-like tubes by HUVECs.[2] The weights of the spleen and thymus in mice with subcutaneously implanted LLC were maintained close to those of normal mice by orally administered 4-hydroxyderricin.[2]

Solubility Information

Solubility	DMSO: 90 mg/mL (265.96 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (9.75 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.9551 mL	14.7754 mL	29.5508 mL
5 mM	0.591 mL	2.9551 mL	5.9102 mL
10 mM	0.2955 mL	1.4775 mL	2.9551 mL
50 mM	0.0591 mL	0.2955 mL	0.591 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

Kim JH, et al. Xanthoangelol and 4-Hydroxyderricin Are the Major Active Principles of the Inhibitory Activities against Monoamine Oxidases on Angelica keiskei K. Biomol Ther (Seoul). 2013 May 30;21(3):234-40.
Kimura Y, et al. Antitumor and antimetastatic activities of 4-hydroxyderricin isolated from Angelica keiskei roots. Planta Med. 2004;70(3):211-219.
Sumiyoshi M, et al. Antitumor and antimetastatic actions of xanthoangelol and 4-hydroxyderricin isolated from Angelica keiskei roots through the inhibited activation and differentiation of M2 macrophages. Phytomedicine. 2015;22(7-8):759-767.
Akihisa T, et al. 4-Hydroxyderricin from Angelica keiskei roots induces caspase-dependent apoptotic cell death in HL60 human leukemia cells. J Oleo Sci. 2011;60(2):71-77.
Nakamura T, et al. Absorption and metabolism of 4-hydroxyderricin and xanthoangelol after oral administration of Angelica keiskei (Ashitaba) extract in mice. Arch Biochem Biophys. 2012;521(1-2):71-76.

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