

Galloflavin

Chemical Properties

CAS No. : 568-80-9

Formula: C₁₂H₆O₈

Molecular Weight: 278.171

The compound is unstable in solution. Please use soon

Storage: 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	Galloflavin is a lactate dehydrogenase inhibitor that inhibits the activity of lactate dehydrogenase. Galloflavin inhibits both human LDH isoforms (type A and type B) by preferentially binding to the free enzyme without competing with substrates or cofactors, with K_i values calculated by pyruvate of 5.46 μ M (LDH-A) and 15.06 μ M (LDH-B).
Targets(IC50)	Dehydrogenase
In vitro	METHODS: Galloflavin (5, 15 μ M) was used to treat SW480 cells, and cell viability was measured and cell migration and wound healing tests were performed to study its effects on the cells in an inflammatory environment. RESULTS Galloflavin can inhibit the upregulation of cell viability of SW480 cells in an inflammatory microenvironment, and also inhibit their migration and invasion in an inflammatory environment. Wound healing showed inhibition of the migration ability of the cells. [1]
In vivo	METHODS: Galloflavin (5, 15 mg/kg, 15 days) was used to treat tumor xenograft-bearing mice. The tumors were removed and the tumor volume was measured to study its effect on tumors in mice. Western Blot experiments were performed to detect the expression levels of related proteins in mice. RESULTS Galloflavin can significantly inhibit tumor growth, and the inhibition of tumor growth and tumor volume is time-dependent. Protein detection found that Galloflavin can inhibit the expression of NLRP3, c-Myc and P21. [1]

Solubility Information

Solubility	DMSO: 55.00 mg/mL (197.72 mM),Sonication is recommended. The compound is unstable in solution. Please use soon. DMF: 1.11 mg/mL (3.99 mM),Sonication is recommended. The compound is unstable in solution. Please use soon. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 2.80 mg/mL (10.07 mM),Sonication is recommended.

A DRUG SCREENING EXPERT

In vivo Formulation	<i>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.</i>
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.5949 mL	17.9746 mL	35.9492 mL
5 mM	0.719 mL	3.5949 mL	7.1898 mL
10 mM	0.3595 mL	1.7975 mL	3.5949 mL
50 mM	0.0719 mL	0.3595 mL	0.719 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

Guo L, et al. Galloflavin Relieves the Malignant Behavior of Colorectal Cancer Cells in the Inflammatory Tumor Microenvironment. *Front Pharmacol.* 2021 Dec 10;12:752118.

Farabegoli F, et al. Galloflavin, a new lactate dehydrogenase inhibitor, induces the death of human breast cancer cells with different glycolytic attitude by affecting distinct signaling pathways. *Eur J Pharm Sci.* 2012 Nov 20;47(4): 729-38.

Manerba M, et al. Galloflavin (CAS 568-80-9): a novel inhibitor of lactate dehydrogenase. *ChemMedChem.* 2012 Feb 6;7(2):311-7.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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