Chelidonic acid

Cat. No.: HY-W041489

CAS No.: 99-32-1

Molecular Formula: $C_7H_4O_6$

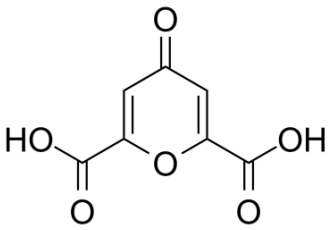
Molecular Weight: 184.1

Target: NF-κB; Caspase

Pathway: NF-κB; Apoptosis

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 25 mg/mL (135.80 mM; Need ultrasonic)

H_2O : 2.5 mg/mL (13.58 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	5.4318 mL	27.1592 mL	54.3183 mL
5 mM	1.0864 mL	5.4318 mL	10.8637 mL
10 mM	0.5432 mL	2.7159 mL	5.4318 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (13.58 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (13.58 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Chelidonic acid is a component of Chelidonium majus L., used as a mild analgesic, an antimicrobial, an acentral nervous system sedative. Chelidonic acid also shows anti-inflammatory activity. Chelidonic acid has potential to inhibit IL-6 production by blocking NF-κB and caspase-1[1]. Chelidonic acid is a glutamate decarboxylase inhibitor, with a K_i of 1.2 μM[2].

IC_{50} & Target			
	NF-κB	Caspase-1	Glutamate decarboxylase 1.2 μM (Ki)

In Vitro

Chelidonic acid dose-dependently decreases IL-6 production at 0.1-10 μM, inhibits expression of IL-6 mRNA at 1-10 μM[1]. Chelidonic acid (0.1-10 μM) decreases caspase-1 activation, nuclear NF-κB activation, and increases cytosol NF-κB activation

	[1]. Chelidonic acid is a glutamate decarboxylase inhibitor, with a K_i of 1.2 μM. Chelidonic acid does not promote formation of apoenzyme or react with free pyridoxal-P[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Chelidonic acid (0.2, 2 mg/kg p.o.) attenuates allergic reaction induced by ovalbumin in mice[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Shin HJ, et al. Inhibitory effects of chelidonic acid on IL-6 production by blocking NF-κB and caspase-1 in HMC-1 cells. Immunopharmacol Immunotoxicol. 2011 Dec;33(4):614-9.

[2]. Porter TG, et al. Chelidonic acid and other conformationally restricted substrate analogues as inhibitors of rat brain glutamate decarboxylase. Biochem Pharmacol. 1985 Dec 1;34(23):4145-50.

[3]. Oh HA, et al. Beneficial effects of chelidonic acid on a model of allergic rhinitis. Send to Int Immunopharmacol. 2011 Jan;11(1):39-45.

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