p-Hydroxycinnamic acid

Cat. No.: HY-N2391

CAS No.: 7400-08-0

Molecular Formula: $C_9H_8O_3$

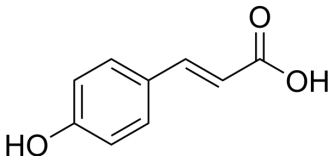
Molecular Weight: 164.16

Target: Endogenous Metabolite; Prostaglandin Receptor

Pathway: Metabolic Enzyme/Protease; GPCR/G Protein

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (609.16 mM)

Ethanol : 33.33 mg/mL (203.03 mM; Need ultrasonic)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	6.0916 mL	30.4581 mL	60.9162 mL
	5 mM	1.2183 mL	6.0916 mL	12.1832 mL
	10 mM	0.6092 mL	3.0458 mL	6.0916 mL

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

In Vivo

1. Add each solvent one by one: 10% EtOH >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (15.23 mM); Clear solution
2. Add each solvent one by one: 10% EtOH >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (15.23 mM); Clear solution
3. Add each solvent one by one: 10% EtOH >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (15.23 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (12.67 mM); Clear solution
5. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (12.67 mM); Clear solution
6. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (12.67 mM); Clear solution

BIOLOGICAL ACTIVITY

Description	p-Hydroxycinnamic acid, a common dietary phenol, could inhibit platelet activity, with IC_{50}s of 371 μM, 126 μM for thromboxane B_2 production and lipopolysaccharide-induced prostaglandin E_2 generation, respectively.	
IC_{50} & Target	TXB_2 371 μM (IC_{50})	Human Endogenous Metabolite
In Vitro	p-Hydroxycinnamic acid (p-Coumaric acid), is a ubiquitous plant metabolite with antioxidant and anti-inflammatory properties. p-Hydroxycinnamic acid (500 μM and 1 mM) reduces ADP-induced platelet aggregation (55?2 (SE 4?01) % and 35?6 (SE 2?35) % relative to basal level, respectively). p-Hydroxycinnamic acid is able to modify platelet function, a shear-inducing device that simulates primary haemostasis. p-Hydroxycinnamic acid interferes also with arachidonic acid cascade, reducing thromboxane B_2 production and lipopolysaccharide-induced prostaglandin E_2 generation (IC_{50} 371 and 126 μM, respectively)[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

REFERENCES

[1]. Luceri C, et al. p-Coumaric acid, a common dietary phenol, inhibits platelet activity in vitro and in vivo. Br J Nutr. 2007 Mar;97(3):458-63.

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