4-Hydroxybenzoic acid

Cat. No.: HY-Y0264

CAS No.: 99-96-7

Molecular Formula: $C_7H_6O_3$

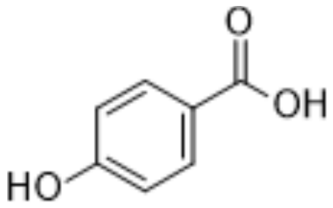
Molecular Weight: 138

Target: Endogenous Metabolite; Bacterial

Pathway: Metabolic Enzyme/Protease; Anti-infection

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 : 120 mg/mL (869.57 mM; Need ultrasonic)

H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	7.2464 mL	36.2319 mL	72.4638 mL
5 mM	1.4493 mL	7.2464 mL	14.4928 mL
10 mM	0.7246 mL	3.6232 mL	7.2464 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 3 mg/mL (21.74 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 3 mg/mL (21.74 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.86 mg/mL (20.72 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

4-Hydroxybenzoic acid, a phenolic derivative of benzoic acid, could inhibit most gram-positive and some gram-negative bacteria, with an IC_{50} of 160 μg/mL.

IC_{50} & Target			
	Microbial Metabolite	Bacteria 160 μg/mL (IC_{50})	Human Endogenous Metabolite

In Vitro	Most of the gram-positive and some gram-negative bacteria are sensitive to trans 4-Hydroxycinnamic acid (4-HBA) and 4-Hydroxybenzoic acid at IC_{50} concentrations of 100-170 and 160 μg/mL, respectively. The antimicrobial activities of 4-Hydroxycinnamic acid and t4-HCA against 11 food pathogenic bacteria, 6 plant pathogenic bacteria, 2 yeasts and 15 plant pathogenic fungi are tested by the paper disc method. These compounds inhibit the growth of most of the bacteria and yeasts at concentrations of 200-400 μg. However, the inhibition is more effective against most of the gram-positive bacteria. When tested by the paper disc method, 4-Hydroxycinnamic acid has stronger antimicrobial activity than t4-HCA against S. aureus, L. mesenteroides, S. cerevisiae and C. albicans at a concentration of 50 μg. However, no inhibitory effect against fungi was observed at concentrations even up to 1000 μg[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Cho JY, Antimicrobial activity of 4-hydroxybenzoic acid and trans 4-hydroxycinnamic acid isolated and identified from rice hull. Biosci Biotechnol Biochem. 1998 Nov;62(11):2273-6.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA