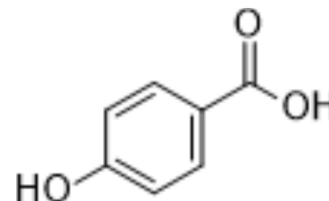


4-Hydroxybenzoic acid

Cat. No.:	HY-Y0264		
CAS No.:	99-96-7		
Molecular Formula:	C ₇ H ₆ O ₃		
Molecular Weight:	138.12		
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 (868.81 mM; Need ultrasonic)
 H₂O : 1.2 mg/mL (8.69 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	7.2401 mL	36.2004 mL	72.4008 mL
	5 mM	1.4480 mL	7.2401 mL	14.4802 mL
	10 mM	0.7240 mL	3.6200 mL	7.2401 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 3 mg/mL (21.72 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 3 mg/mL (21.72 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.86 mg/mL (20.71 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 IC₅₀ of 160 µg/mL.

IC₅₀ & Target

Microbial Metabolite

Bacteria
160 µg/mL (IC₅₀)

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 IC₅₀ 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.

Caution: Product has not been fully validated for medical applications. For research use only.

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