



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!  
See the following pages for more information!



### Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

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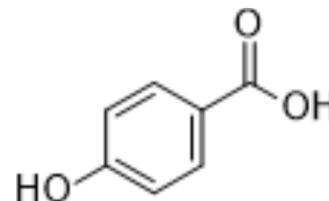
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## 4-Hydroxybenzoic acid

<b>Cat. No.:</b>	HY-Y0264		
<b>CAS No.:</b>	99-96-7		
<b>Molecular Formula:</b>	C <sub>7</sub> H <sub>6</sub> O <sub>3</sub>		
<b>Molecular Weight:</b>	138		
<b>Target:</b>	Endogenous Metabolite; Bacterial		
<b>Pathway:</b>	Metabolic Enzyme/Protease; Anti-infection		
<b>Storage:</b>	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<sub>2</sub>O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions	Solvent Concentration	Mass		
		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

- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
 Solubility: ≥ 3 mg/mL (21.74 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
 Solubility: ≥ 3 mg/mL (21.74 mM); Clear solution
- 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<sub>50</sub> of 160 μg/mL.

#### IC<sub>50</sub> & Target

Microbial Metabolite	Bacteria 160 μg/mL (IC <sub>50</sub> )	Human Endogenous Metabolite
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## 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<sub>50</sub> 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<sup>[1]</sup>.

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.**

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