p-Hydroxybenzaldehyde

Cat. No.: HY-Y0313

CAS No.: 123-08-0

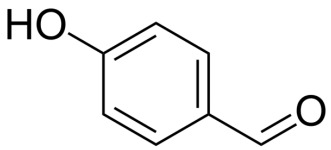
Molecular Formula: $C_7H_6O_2$

Molecular Weight: 122.12

Target: Endogenous Metabolite; GABA Receptor

Pathway: Metabolic Enzyme/Protease; Membrane Transporter/Ion Channel; Neuronal Signaling

Storage: 4°C, stored under nitrogen
* In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (818.87 mM; Need ultrasonic)
H_2O : 10 mg/mL (81.89 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	8.1887 mL	40.9433 mL	81.8867 mL
	5 mM	1.6377 mL	8.1887 mL	16.3773 mL
	10 mM	0.8189 mL	4.0943 mL	8.1887 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 14.29 mg/mL (117.02 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (20.47 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (20.47 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (20.47 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

p-Hydroxybenzaldehyde is a one of the major components in vanilla aroma, with antagonistic effect on $GABA_A$ receptor of the $\alpha_1\beta_2\gamma_2S$ subtype at high concentrations.

IC_{50} & Target		
	Human Endogenous Metabolite	Human Endogenous Metabolite

In Vitro	p-Hydroxybenzaldehyde (4-hydroxybenzaldehyde) is a one of the major components in Dendrocalamus asper bamboo shoots, with antagonistic effect on $GABA_A$ receptor of the $\alpha_1\beta_2\gamma_2S$ subtype at high concentrations. p-Hydroxybenzaldehyde (101.7 μM) significantly reduces the GABA-induced chloride current of $GABA_A$ receptors expressed on Xenopus oocytes[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Zhang J, et al. The Effect of 4-hydroxybenzaldehyde on the γ-aminobutyric Acid Type A Receptor. Malays J Med Sci. 2017 Mar;24(2):94-99.

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