# Nipecotic acid

**Cat. No.:** HY-69359

**CAS No.:** 498-95-3

**Molecular Formula:** $C_6H_{11}NO_2$

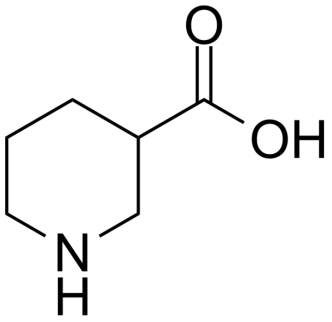
**Molecular Weight:** 129.16

**Target:** GABA Receptor

**Pathway:** Membrane Transporter/Ion Channel; Neuronal Signaling

**Storage:**

| | | |
|---|---|---|
| Powder | -20°C | 3 years |
| | 4°C | 2 years |
| In solvent | -80°C | 6 months |
| | -20°C | 1 month |




## SOLVENT & SOLUBILITY

**In Vitro**

$H_2O$ : 50 mg/mL (387.12 mM; Need ultrasonic)

DMSO : < 1 mg/mL (ultrasonic) (insoluble or slightly soluble)

**Preparing Stock Solutions**

| Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 7.7423 mL | 38.7117 mL | 77.4233 mL |
| 5 mM | 1.5485 mL | 7.7423 mL | 15.4847 mL |
| 10 mM | 0.7742 mL | 3.8712 mL | 7.7423 mL |

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

**In Vivo**

1. Add each solvent one by one: PBS
   Solubility: 50 mg/mL (387.12 mM); Clear solution; Need ultrasonic

## BIOLOGICAL ACTIVITY

**Description**

Nipecotic acid ((±)-β-Homoproline) is a potent inhibitor of neuronal and glial-aminobutyric acid (GABA) uptake in vitro. Nipecotic acid can also directly activate $GABA_A$-like chloride channels, with an $EC_{50}$ of approximately 300 μM[1][2].

**$IC_{50}$ & Target**

GABA Receptor[1]

**In Vitro**

Nipecotic acid (1 mM) activated inward unitary currents when applied to outside-out patches of paraventricular neurones[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**In Vivo**

Nipecotic acid does not readily cross the blood-brain barrier (BBB)[2].

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## REFERENCES

[1]. Barrett-Jolley R, et, al. Nipecotic acid directly activates GABA(A)-like ion channels. Br J Pharmacol. 2001 Jul;133(5):673-8.

[2]. Dhanawat M, et, al. Design, Synthesis and Enhanced BBB Penetration Studies of L-serine-Tethered Nipecotic Acid-Prodrug. Drug Res (Stuttg). 2021 Feb;71(2):94-103.



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