# Lazabemide

**Cat. No.:** HY-14201

**CAS No.:** 103878-84-8

**Molecular Formula:** $C_8H_{10}ClN_3O$

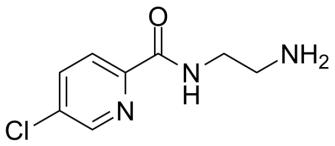
**Molecular Weight:** 199.64

**Target:** Monoamine Oxidase

**Pathway:** Neuronal Signaling

**Storage:**

| | | |
|---|---|---|
| Powder | -20°C | 3 years |
| | 4°C | 2 years |
| In solvent | -80°C | 2 years |
| | -20°C | 1 year |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 5 mg/mL (25.05 mM; Need ultrasonic)

| Preparing Stock Solutions | Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 5.0090 mL | 25.0451 mL | 50.0902 mL |
| | 5 mM | 1.0018 mL | 5.0090 mL | 10.0180 mL |
| | 10 mM | 0.5009 mL | 2.5045 mL | 5.0090 mL |

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

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 0.5 mg/mL (2.50 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 0.5 mg/mL (2.50 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.5 mg/mL (2.50 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

Lazabemide (Ro 19-6327) is a selective, reversible inhibitor of monoamine oxidase B (MAO-B) ($IC_{50}$=0.03 μM) but less active for MAO-A ($IC_{50}$>100 μM). Lazabemide inhibits monoamine uptake at high concentrations, the $IC_{50}$ values are 86 μM, 123 μM and >500 μM for noradrenalin, serotonin and dopamine uptake, respectively. Lazabemide can be used for the research of parkinson and alzheimer's disease[1].

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

IC50: 30 nM (MAO-B)[1].

| | |
|---|---|
| **In Vitro** | The in vitro binding characteristics of both radiolabeled inhibitors revealed them to be selective, high-affinity ligands for the respective enzymes. $K_D$ and $B_{max}$ values for $^3$H-Ro 19-6327 in rat cerebral cortex are 18.4 nM and 3.45 pmol/mg protein, respectively[1].<br>The $IC_{50}$ values for lazabemide are: 86 μM for NA uptake; 123 μM for 5HT uptake; > 500 μM for DA uptake, respectively[1].<br>. Lazabemide (5 μM) inhibits human MAO-B and MAO-A with $IC_{50}$ of 6.9 nM and >10 nM, respectively. And it inhibits rat MAO-B and MAO-A with $IC_{50}$of 37 nM and >10 μM, respectively ina enzymatic assay[2].<br>Lazabemide differs from L-deprenyl in their ability to induce release of endogenous monoamines from synaptosomes. Thus, Lazabemide (500 μM) induces a greater 5 HT release than does L-deprenyl, but is less effective than L-deprenyl in releasing DA. On the contrary, lazabemide was almost completely inactive on either 5-HT and DA release[2].<br>Lazabemide (250 nM) results in a clear inhibition of DOPAC formation, while does not increase the accumulation of newly-formed DA in those tubular epithelial cells loaded with 50 microM L-DOPA[3].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
| **In Vivo** | Lazabemide (3 mg/kg) attenuates ichemia reperfusion-induced hydroxyl radical generation and pretreatment with Lazabemide showed decreased DOPAC levels in comparison with those of their respective vehicle-treated control groups[4].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

## REFERENCES


[1]. Saura J, et al. Quantitative enzyme radioautography with 3H-Ro 41-1049 and 3H-Ro 19-6327 in vitro: localization and abundance of MAO-A and MAO-B in rat CNS, peripheral organs, and human brain. J Neurosci. 1992 May;12(5):1977-99.

[2]. Bondiolotti GP, et al. In vitro effects on monoamine uptake and release by the reversible monoamine oxidase-B inhibitors lazabemide and N-(2-aminoethyl)-p-chlorobenzamide: a comparison with L-deprenyl. Biochem Pharmacol. 1995 Jun 29;50(1):97-102.

[3]. Guimaraes J, et al. The activity of MAO A and B in rat renal cells and tubules. Life Sci. 1998;62(8):727-37.

[4]. Suzuki T, et al. MAO inhibitors, clorgyline and lazabemide, prevent hydroxyl radical generation caused by brain ischemia/reperfusion in mice. Pharmacology. 1995 Jun;50(6):357-62.





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