# Quisqualic acid

**Cat. No.:** HY-12597

**CAS No.:** 52809-07-1

**Molecular Formula:** $C_5H_7N_3O_5$

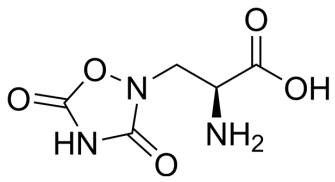
**Molecular Weight:** 189.13

**Target:** iGluR; mGluR

**Pathway:** Membrane Transporter/Ion Channel; Neuronal Signaling; GPCR/G Protein

**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 : 12.5 mg/mL (66.09 mM; ultrasonic and warming and heat to 60°C)

$H_2O$ : 2 mg/mL (10.57 mM; ultrasonic and warming and heat to 60°C)

**Preparing Stock Solutions**

| Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 5.2874 mL | 26.4368 mL | 52.8737 mL |
| 5 mM | 1.0575 mL | 5.2874 mL | 10.5747 mL |
| 10 mM | 0.5287 mL | 2.6437 mL | 5.2874 mL |

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

**In Vivo**

1. Add each solvent one by one: PBS
   Solubility: 25 mg/mL (132.18 mM); Clear solution; Need ultrasonic and warming and heat to 60°C
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 1.25 mg/mL (6.61 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.25 mg/mL (6.61 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.25 mg/mL (6.61 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

Quisqualic acid (L-Quisqualic acid), a natural analog of glutamate, is a potent and pan two subsets (iGluR and mGluR) of excitatory amino acid (EAA) agonist with an $EC_{50}$ of 45 nM and a $K_i$ of 10 nM for mGluR1R. Quisqualic acid is isolated from the fruits of Quisqualis indica[1][2].

| | | | | |
|---|---|---|---|---|
| **$IC_{50}$ & Target** | mGluR1R<br>45 nM (EC50) | mGluR1R<br>10 nM (Ki) | mGluR2R<br>108 μM ($IC_{50}$) | mGluR2R<br>113 μM (Ki) |
| | mGluR4R<br>593 μM ($IC_{50}$) | mGluR4R<br>112 μM (Ki) | | |
| **In Vitro** | Quisqualic acid is an agonist of AMPA and metabotropic glutamate receptors. Quisqualic acid activates mGluR2R ($EC_{50}$=108 μM; $K_i$=113 μM) and mGluR4R ($EC_{50}$=593 μM; $K_i$=112 μM)[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. | | | |

## REFERENCES


[1]. Hugues-Olivier Bertrand, et al. Common and Selective Molecular Determinants Involved in Metabotopic Glutamate Receptor Agonist Activity. J Med Chem. 2002 Jul 18;45(15):3171-83.

[2]. H Bräuner-Osborne, et al. Ligands for Glutamate Receptors: Design and Therapeutic Prospects. J Med Chem. 2000 Jul 13;43(14):2609-45.





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