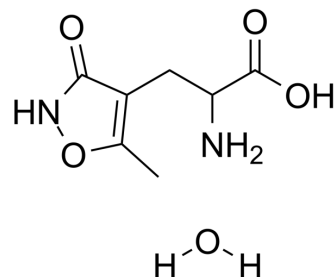


## (RS)-AMPA monohydrate

<b>Cat. No.:</b>	HY-100815D
<b>CAS No.:</b>	76463-67-7
<b>Molecular Formula:</b>	C <sub>7</sub> H <sub>12</sub> N <sub>2</sub> O <sub>5</sub>
<b>Molecular Weight:</b>	204.18
<b>Target:</b>	iGluR
<b>Pathway:</b>	Membrane Transporter/Ion Channel; Neuronal Signaling
<b>Storage:</b>	-20°C, protect from light, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	H <sub>2</sub> O : 5 mg/mL (24.49 mM); ultrasonic and warming and heat to 60°C				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM	4.8976 mL	24.4882 mL	48.9764 mL
		5 mM	0.9795 mL	4.8976 mL	9.7953 mL
		10 mM	0.4898 mL	2.4488 mL	4.8976 mL
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	1. Add each solvent one by one: PBS Solubility: 7.14 mg/mL (34.97 mM); Clear solution; Need ultrasonic and warming and heat to 60°C				

### BIOLOGICAL ACTIVITY

<b>Description</b>	(RS)-AMPA ((±)-AMPA) monohydrate is a glutamate analogue and a potent and selective excitatory neurotransmitter L-glutamic acid agonist. (RS)-AMPA monohydrate does not interfere with binding sites for kainic acid or NMDA receptors <sup>[1][2]</sup> .
<b>In Vitro</b>	(RS)-AMPA monohydrate (10 <sup>-3</sup> -10 <sup>-4</sup> M) causes depolarizations of cultured rat spinal and brainstem neurones. The depolarization by (RS)-AMPA monohydrate is clearly dose-dependent, although there is a great variability of effects between individual neurones. Application of (RS)-AMPA monohydrate at 10 <sup>-5</sup> M produces only small depolarizations (3-7 mV), whereas at 10 <sup>-4</sup> M, the amplitudes of the depolarizations ranged from 4 to 33 mV. (RS)-AMPA monohydrate also causes an increase of the discharge rate of spontaneously firing neurones or sometimes evoked a short burst of action potentials in silent cells. (RS)-AMPA monohydrate exerts its depolarizing effects by activating glutamate/quisqualate receptors without affecting NMDA receptors <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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## REFERENCES

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- [1]. Höslü L, et al. Effects of the glutamate analogue AMPA and its interaction with antagonists on cultured rat spinal and brain stem neurones. *Neurosci Lett*. 1983 Mar 28;36(1):59-62.
- [2]. Sommer B, et al. Flip and flop: a cell-specific functional switch in glutamate-operated channels of the CNS. *Science*. 1990 Sep 28;249(4976):1580-5.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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