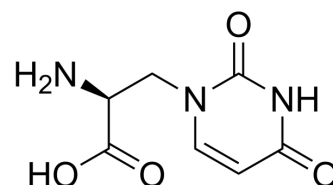


## (S)-Willardiine

Cat. No.:	HY-12499		
CAS No.:	21416-43-3		
Molecular Formula:	C <sub>7</sub> H <sub>9</sub> N <sub>3</sub> O <sub>4</sub>		
Molecular Weight:	199.16		
Target:	iGluR		
Pathway:	Membrane Transporter/Ion Channel; 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 : < 1 mg/mL (ultrasonic) (insoluble or slightly soluble)
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### BIOLOGICAL ACTIVITY

Description	(S)-Willardiine is a potent agonist of AMPA/kainate receptors with EC <sub>50</sub> of 44.8 uM. IC <sub>50</sub> value: 44.8 uM (EC <sub>50</sub> ) [1] Target: AMPA/kainate receptor agonist in vitro: The (S)- but not (R)-isomers of willardiine and 5-bromowillardiine were potent agonists, producing rapidly but incompletely desensitizing responses [1]. At a concentration of 1.8 mM, Ca <sup>2+</sup> inhibited the currents induced by 100 microM willardiine by approximately 50% [2]. in vivo: In newborn mice (P5, histopathology at P10), local injection of the AMPA receptor agonist S-bromo-willardiine at day 5 after birth induced cortical damage and white matter damage, which was reduced in a dose-dependent manner by the AMPA receptor antagonists [3].
IC <sub>50</sub> & Target	Kainate Receptor

### REFERENCES

- [1]. Patneau DK, et al. Activation and desensitization of AMPA/kainate receptors by novel derivatives of willardiine. J Neurosci. 1992 Feb;12(2):595-606.
- [2]. Fukushima T, et al. Calcium inhibits willardiine-induced responses in kainate receptor GluR6(Q)/KA-2. Neuroreport. 2001 Jan 22;12(1):163-7.
- [3]. Gressens P, et al. The effects of AMPA receptor antagonists in models of stroke and neurodegeneration. Eur J Pharmacol. 2005 Sep 5;519(1-2):58-67.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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