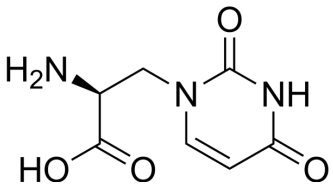
(S)-Willardiine

Cat. No.:	HY-12499
CAS No.:	21416-43-3
Molecular Formula:	$C_7H_9N_3O_4$
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)

BIOLOGICAL ACTIVITY

Description	(S)-Willardiine is a potent agonist of AMPA/kainate receptors with EC50 of 44.8 uM.IC50 value: 44.8 uM(EC50) [1]Target: AMPA/kainate receptor agonistin 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, Ca2+ 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_{50} & 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.

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