Data Sheet (Cat.No.T4752)

TargetMol

1-Aminocyclopropane-1-carboxylic acid

Chemical Properties

CAS No. :	22059-21-8
Formula:	C4H7NO2
Molecular Weight:	101.104
Storage:	Keep away from direct sunlight,Keep away from moisture Powder: -20°C for 3 years | In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.

Biological Description

Description	1-Aminocyclopropane-1-carboxylic acid (ACC) is an intermediate in the synthesis of ethylene, the plant hormone responsible for biological processes ranging from seed germination to organ senescence. It is a small molecule agonist at the glycine modulatory site of the NMDA receptor (EC50 = 0.7-0.9 μM) in the presence of low levels (1 μM) of glutamate and as a competitive antagonist at the glutamate-binding site on NMDA receptors (EC50 = 81.6 nM) with high levels (10 μM) of glutamate.2 This compound has been reported to protect against neuron cell death in vivo models of ischemia by enabling moderate levels of NMDA receptor activation and attenuating any excess NMDA receptor signaling that may lead to neurotoxicity.
Targets(IC50)	Endogenous Metabolite,NMDAR

Solubility Information

Solubility	H2O: 100.00 mg/mL (989.08 mM),Sonication is recommended. DMSO: Insoluble, (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	9.8912 mL	49.456 mL	98.912 mL
5 mM	1.9782 mL	9.8912 mL	19.7824 mL
10 mM	0.9891 mL	4.9456 mL	9.8912 mL
50 mM	0.1978 mL	0.9891 mL	1.9782 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Bleecker, A.B., et al. A gaseous signal molecule in plants Annual Reviews of Cell Development and Biology 16, 1-18 (2000).

Nahum-Levy R., et al. Putative partial agonist 1-aminocyclopropanecarboxylic acid acts concurrently as a glycine-site agonist and a glutamate-site antagonist at N-methyl-D-aspartate receptors. Molecular Pharmacology 56(6), 1207-1218 (1999).