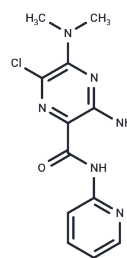


ACDPP

Chemical Properties

CAS No. :	37804-11-8
Formula:	C ₁₂ H ₁₃ ClN ₆ O
Molecular Weight:	292.72
Storage:	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	ACDPP is a specific antagonist of metabotropic glutamate receptor 5 (mGluR5) that partially blocks the DHPG-induced increase of fragile X mental retardation protein (FMRP), ACDPP is used as a pharmacological tool in neuroscience research to study group I mGluR signaling, synaptic plasticity, and molecular mechanisms underlying fragile X syndrome.
Targets(IC50)	GluR
In vitro	ACDPP functions as a negative allosteric modulator of mGluR5, exhibiting high affinity with a K _i value of < 5 nM. It displays over 2000-fold selectivity for mGluR5 over mGluR1 [1].
In vivo	ACDPP demonstrates blood-brain barrier (BBB) permeability, allowing for systemic administration in behavioral models. In animal studies such as the Vogel conflict test, inhibition of mGluR5 by ACDPP is associated with anxiolytic-like effects. In Fmr1 knockout mice, a model for Fragile X Syndrome (FXS), administration of the compound reduces the incidence of audiogenic seizures and corrects abnormalities in dendritic spine morphology [1].

Solubility Information

Solubility	DMSO: <32.92 mg/mL, Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.4162 mL	17.0812 mL	34.1623 mL
5 mM	0.6832 mL	3.4162 mL	6.8325 mL
10 mM	0.3416 mL	1.7081 mL	3.4162 mL
50 mM	0.0683 mL	0.3416 mL	0.6832 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

Wang H, et al. Roles of calcium-stimulated adenylyl cyclase and calmodulin-dependent protein kinase IV in the regulation of FMRP by group I metabotropic glutamate receptors. *J Neurosci.* 2008 Apr 23;28(17):4385-97.

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