Certificate of Analysis

Product Name: (*S*)-CPW 399 **Catalog No.: 1543** **Batch No.: 3**

CAS Number: 389888-02-2

IUPAC Name: (*S*)-α-Amino-2,3,4,5,6,7-hexahydro-2,4-dioxo-1*H*-cyclopentapyrimidine-1-propanoic acid

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{10}H_{13}N_3O_4.½H_2O$

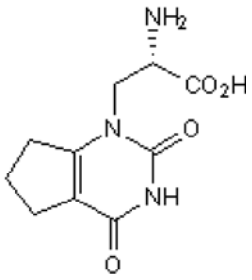
Batch Molecular Weight: 248.24

Physical Appearance: White solid

Solubility: water to 50 mM
phosphate buffered saline to 50 mM

Storage: Desiccate at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.36 (Pyridine:Acetic acid:Water:Butanol [3:8:11:33])

Melting Point: At 214°C

HPLC: Shows 98.0% purity

Chiral HPLC: Shows 99.4% purity

^{1}H NMR: Consistent with structure

Optical Rotation: $[\alpha]_D$ = +39.61 (Concentration = 0.5125, Solvent = 6N HCl)

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	48.39	5.68	16.93
Found	48.35	5.59	16.98

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Description:

Novel subtype-selective and weakly desensitizing AMPA receptor partial agonist (K_i values are 44, 109, 223, 1890 and 2090 nM at GluK1, GluA1, GluA2, GluA3 and GluA4 receptors respectively). Exhibits potent agonist activity at GluA1 and GluA2 subunit-containing AMPA receptors (EC_{50} values are 24.9 and 13.9 µM respectively) and is excitotoxic in vitro. Please refer to IUPHAR Guide to Pharmacology for the most recent naming conventions.

Physical and Chemical Properties:

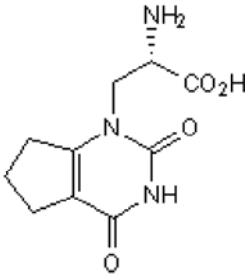
Batch Molecular Formula: $C_{10}H_{13}N_3O_4.½H_2O$

Batch Molecular Weight: 248.24

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Desiccate at -20°C

Solubility & Usage Info:

water to 50 mM
phosphate buffered saline to 50 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Butini *et al* (2008) 1*H*-Cyclopentapyrimidine-2,4(1*H*,3*H*)-dione-related ionotropic glutamate receptor ligands. Structure-activity relationships and identification of potent and selective iGluR5 modulators. J.Med.Chem. ***51*** 6614. PMID: 18811139.

Sinclair *et al* (2003) Inherent desensitisation-preventing properties of a novel subtype-selective AMPA receptor agonist, (*S*)-CPW 399, as a possible explanation for its excitotoxic action in cultured cerebellar granule cells. Neurochem.Int. ***42*** 499. PMID: 12547649.

Campiani *et al* (2001) Characterization of the 1*H*-cyclopentapyrimidine-2,4(1*H*,3*H*)-dione derivative (S)-CPW399 as a novel, potent and subtype-selective AMPA receptor full agonist with partial desensitization properties. J.Med.Chem. ***44*** 4501. PMID: 11741469.