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Certificate of Analysis

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Product Name: ***cis*-ACBD** **Catalog No.: 0271** **Batch No.: 10**

CAS Number: 73550-55-7

IUPAC Name: *cis*-1-Aminocyclobutane-1,3-dicarboxylic acid

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_6H_9NO_4.H_2O$

Batch Molecular Weight: 177.16

Physical Appearance: White crystalline solid

Solubility: 1eq. NaOH to 100 mM

Storage: Store at RT

Batch Molecular Structure:

2. ANALYTICAL DATA

TLC: R_f = 0.4 (Butanol:Acetic acid:Water [3:1:1])

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	40.68	6.26	7.91
Found	40.64	6.26	7.9

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CAS Number: 73550-55-7

IUPAC Name: *cis*-1-Aminocyclobutane-1,3-dicarboxylic acid

Description:

Potent, competitive and selective inhibitor of glutamate uptake. Certain confusion exists over the naming of this compound because of apparent contradictions in the literature. This is the isomer which has the carboxylic acid and the amino groups on the same side of the cyclobutyl ring.

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Storage: Store at RT

Solubility & Usage Info:

1eq. NaOH to 100 mM

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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:

Allan *et al* (1990) Synthesis and activity of a potent NMDA agonist, *trans*-1-aminocyclobutane-1,3-dicarboxylic acid, and related phosphonic and carboxylic acids. J.Med.Chem. ***33*** 2905. PMID: 2145435.

Fletcher *et al* (1991) Inhibition of L-glutamic acid uptake into rat cortical synaptosomes by the conformationally restricted analogue of glutamic acid, *cis*-1-aminocyclobutane-1,3-dicarboxylic acid. Neurosci.Lett. ***121*** 133. PMID: 1673544.

Koch *et al* (1999) Differentiation of substrate and nonsubstrate inhibitors of the high-affinity, sodium-dependent glutamate transporters. Mol.Pharmacol. ***56*** 1095. PMID: 10570036.

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