

**Product Name:** Cyclothiazide

**Catalog No.:** 0713

**Batch No.:** 8

CAS Number: 2259-96-3

EC Number: 218-859-7

IUPAC Name: 6-Chloro-3,4-dihydro-3-(5-norbornen-2-yl)-2*H*-1,2,4-benzothiazidiazine-7-sulfonamide-1,1-dioxide

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>14</sub>H<sub>16</sub>ClN<sub>3</sub>O<sub>4</sub>S<sub>2</sub>

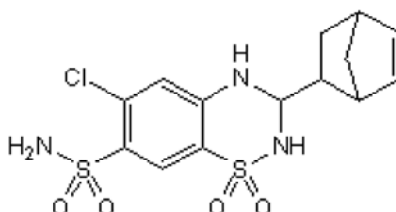
**Batch Molecular Weight:** 389.87

**Physical Appearance:** White solid

**Solubility:** DMSO to 100 mM  
ethanol to 25 mM

**Storage:** Store at RT

**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**TLC:** R<sub>f</sub> = 0.33 (Chloroform:Methanol [9:1])

**HPLC:** Shows 99.2% purity

**<sup>1</sup>H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	43.13	4.14	10.78
Found	42.83	4.12	10.66

**Residual acetonitrile:** 4.3% mol, 0.47% wt

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**Description:**

Positive allosteric modulator of AMPA receptors that potently inhibits AMPA receptor desensitization. Selective for the flip variant of each of the four receptor subunits.

**Physical and Chemical Properties:**

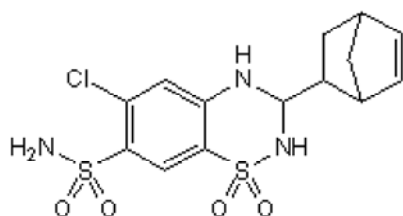
Batch Molecular Formula: C<sub>14</sub>H<sub>16</sub>ClN<sub>3</sub>O<sub>4</sub>S<sub>2</sub>

Batch Molecular Weight: 389.87

Physical Appearance: White solid

**Minimum Purity:** >98%

**Batch Molecular Structure:**



**Storage:** Store at RT

**Solubility & Usage Info:**

DMSO to 100 mM

ethanol to 25 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:**

**Kessler et al** (2000) The norbornenyl moiety of cyclothiazide determines the preference for flip-flop variants of AMPA receptor subunits. *Neurosci.Lett.* **287** 161. PMID: 10854736.

**Donevan and Rogawski** (1998) Allosteric regulation of α-amino-3-hydroxy-5-methyl-4-isoxazole propionic acid receptors by thiocyanate and cyclothiazide at a common modulatory site distinct from that of 2,3-benzodiazepines. *Neuroscience* **87** 615. PMID: 9758228.

**Desai et al** (1995) Cyclothiazide acts at a site on the α-amino-3-hydroxy-5-methyl-4-isoxazole propionic acid receptor complex that does not recognise competitive or noncompetitive AMPA receptor antagonists. *J.Pharmacol.Exp.Ther.* **272** 38. PMID: 7529311.

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