

## Certificate of Analysis

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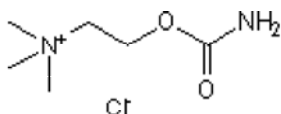
**Product Name:** Carbamoylcholine chloride  
**CAS Number:** 51-83-2  
**IUPAC Name:** (2-Hydroxyethyl)trimethylammonium chloride carbamate

**Catalog No.:** 2810      **Batch No.:** 7  
**EC Number:** 200-127-3

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>6</sub>H<sub>15</sub>ClN<sub>2</sub>O<sub>2</sub>  
**Batch Molecular Weight:** 182.65  
**Physical Appearance:** White solid  
**Solubility:** water to 100 mM  
DMSO to 50 mM  
**Storage:** Desiccate at RT

**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

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

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	39.46	8.28	15.34
Found	39.62	8.33	15.11

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

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**Product Name:** Carbamoylcholine chloride

**Catalog No.:** 2810

**Batch No.:** 7

CAS Number: 51-83-2

EC Number: 200-127-3

IUPAC Name: (2-Hydroxyethyl)trimethylammonium chloride carbamate

**Description:**

Carbamoylcholine chloride is a cholinergic receptor agonist that is resistant to the action of cholinesterases. Blocks apoptosis in cerebellar granule neurons.

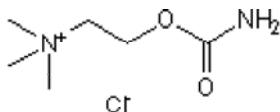
**Physical and Chemical Properties:**

Batch Molecular Formula: C<sub>6</sub>H<sub>15</sub>ClN<sub>2</sub>O<sub>2</sub>.

Batch Molecular Weight: 182.65

Physical Appearance: White solid

**Batch Molecular Structure:**



**Storage:** Desiccate at RT

**Solubility & Usage Info:**

water to 100 mM

DMSO to 50 mM

CAUTION - This product is extremely hygroscopic and we recommend that it is desiccated upon arrival.

**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:**

Yan *et al* (1995) Activation of muscarinic cholinergic receptors blocks apoptosis of cultured cerebellar granule neurons. *Mol.Pharmacol.* **47** 248. PMID: 7870032.

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