

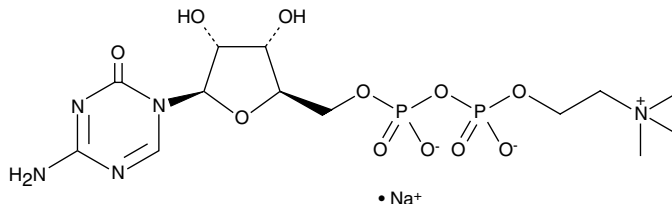
# Product Information



## Citicoline (sodium salt)

Item No. 14629

**CAS Registry No.:** 33818-15-4  
**Formal Name:** P'-[2-(trimethylammonio)ethyl] ester-cytidine 5'-(trihydrogen diphosphate)-inner, monosodium salt  
**Synonyms:** Cytidine 5'-diphosphocholine, Flussorex, Gerolin, Logan, Neurotron, Sinkron  
**MF:**  $C_{14}H_{25}N_4O_{11}P_2 \cdot Na$   
**FW:** 510.3  
**Purity:**  $\geq 95\%$   
**Stability:**  $\geq 2$  years at  $-20^\circ\text{C}$   
**Supplied as:** A crystalline solid



### Laboratory Procedures

For long term storage, we suggest that citicoline (sodium salt) be stored as supplied at  $-20^\circ\text{C}$ . It should be stable for at least two years.

Citicoline (sodium salt) is supplied as a crystalline solid. Organic solvent-free aqueous solutions of citicoline (sodium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of citicoline (sodium salt) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Citicoline is an endogenous intermediate in the synthesis of phosphatidylcholine, the major phospholipid in eukaryotic cells.<sup>1</sup> It also serves as a choline donor in the biosynthesis of the neurotransmitter acetylcholine. Citicholine demonstrates protective effects in cerebral ischemia, traumatic brain injury, and memory disorders.<sup>2</sup> Exogenous administration of citicholine to rodents (500 mg/kg i.p. immediately after ischemia and at 3-h reperfusion) has been shown to stimulate the synthesis of phosphatidylcholine, sphingomyelin, and cardiolipin and to attenuate the release of arachidonic acid and the accumulation of ceramide.<sup>3</sup>

### References

1. McMaster, C.R. and Bell, R.M. Phosphatidylcholine biosynthesis *via* the CDP-choline pathway in *Saccharomyces cerevisiae*. *J. Biol. Chem.* **269**(20), 14776-14783 (1994).
2. Divalos, A. and Secades, J. Citicoline preclinical and clinical update 2009-2010. *Stroke* **42**(1), 36-39 (2011).
3. Rao, M., Hatcher, J.F., and Dempsey, R.J. Lipid alterations in transient forebrain ischemia: Possible new mechanisms of CDP-choline neuroprotection. *J. Neurochem.* **75**(6), 2528-2535 (2000).

### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/14629](http://www.caymanchem.com/catalog/14629)

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will meet our specifications at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have **any obligation or liability**, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's **exclusive remedy** and Cayman's sole liability hereunder shall be limited to a **refund** of the purchase price, or at Cayman's option, the **replacement**, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.

Copyright Cayman Chemical Company, 07/24/2013

### Cayman Chemical

#### Mailing address

1180 E. Ellsworth Road  
Ann Arbor, MI  
48108 USA

#### Phone

(800) 364-9897  
(734) 971-3335

#### Fax

(734) 971-3640

#### E-Mail

[custserv@caymanchem.com](mailto:custserv@caymanchem.com)

#### Web

[www.caymanchem.com](http://www.caymanchem.com)