

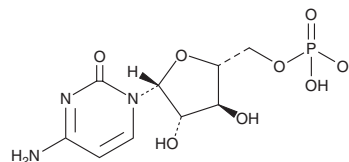
# PRODUCT INFORMATION



## Cytarabine 5'-monophosphate

Item No. 36496

**CAS Registry No.:** 7075-11-8  
**Formal Name:** 4-amino-1-(5-O-phosphono-β-D-arabinofuranosyl)-2(1H)-pyrimidinone  
**Synonyms:** ara-CMP, 1-β-D-Arabinofuranosylcytosine 5'-monophosphate, Cytosine Arabinoside monophosphate, NSC 99445  
**MF:** C<sub>9</sub>H<sub>14</sub>N<sub>3</sub>O<sub>8</sub>P  
**FW:** 323.2  
**Purity:** ≥95%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Cytarabine 5'-monophosphate (ara-CMP) is supplied as a solid. A stock solution may be made by dissolving the ara-CMP in water. We do not recommend storing the aqueous solution for more than one day.

### Description

ara-CMP is an active metabolite of the nucleoside analog cytarabine (Item No. 16069).<sup>1</sup> It is formed from cytarabine by deoxycytidine kinase.<sup>2</sup> ara-CMP is incorporated into DNA by DNA polymerase α, which slows the rate of DNA synthesis by approximately 2,000-fold in a cell-free assay.<sup>3</sup> It inhibits nuclear and mitochondrial DNA replication in *S. cerevisiae* when used at a concentration of 15 mM.<sup>4</sup> ara-CMP (3.5-75.1 mg/kg) improves survival in an L1210 murine leukemia model.<sup>5</sup>

### References

1. Huang, S., Liu, L., Liu, X., *et al.* Development and application of a rapid and sensitive liquid chromatography-mass spectrometry method for simultaneous analysis of cytarabine, cytarabine monophosphate, cytarabine diphosphate and cytarabine triphosphate in the cytosol and nucleus. *J. Pharm. Biomed. Anal.* **211**, 114582 (2022).
2. Mompalmer, R.L. and Fischer, G.A. Mammalian deoxynucleoside kinases. I. Deoxycytidine kinase: Purification, properties, and kinetic studies with cytosine arabinoside. *J. Biol. Chem.* **243(16)**, 4298-4304 (1968).
3. Perrino, F.W. and Mekosh, H.L. Incorporation of cytosine arabinoside monophosphate into DNA at internucleotide linkages by human DNA polymerase α. *J. Biol. Chem.* **267(32)**, 23043-23051 (1992).
4. Mcintosh, E.M., Kunz, B.A., and Haynes, R.H. Inhibition of DNA replication in *Saccharomyces cerevisiae* by araCMP. *Curr. Genet.* **10(8)**, 579-585 (1986).
5. Schrecker, A.W. and Goldin, A. Antitumor effect and mode of action of 1-β-D-arabinofuranosylcytosine 5'-phosphate in leukemia L1210. *Cancer Res.* **28(4)**, 802-803 (1968).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. 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

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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897

[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM