

## Certificate of Analysis

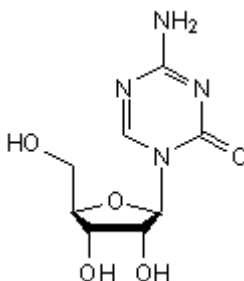
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**Product Name:** 5-Azacytidine  
**CAS Number:** 320-67-2  
**IUPAC Name:** 4-Amino-1-β-D-ribofuranosyl-1,3,5-triazin-2(1*H*)-one

**Catalog No.:** 3842  
**Batch No.:** 2  
**EC Number:** 206-280-2

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>8</sub>H<sub>12</sub>N<sub>4</sub>O<sub>5</sub>  
**Batch Molecular Weight:** 244.2  
**Physical Appearance:** White solid  
**Solubility:** water to 50 mM  
DMSO to 100 mM  
**Storage:** Store at RT  
**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**HPLC:** Shows 98.9% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	39.35	4.95	22.94
Found	39.4	5.07	22.8

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

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**Description:**

DNA methyltransferase inhibitor. Incorporates into DNA forming covalent adducts with cellular DNMT1, depleting enzyme activity. Induces demethylation and reactivation of silenced genes. Improves the efficiency of reprogramming of stem cells; induces differentiation of mesenchymal stem cells into cardiomyocytes.

**Physical and Chemical Properties:**

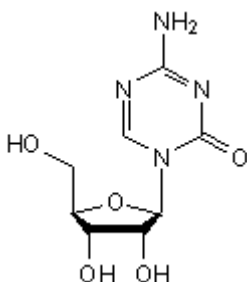
Batch Molecular Formula: C<sub>8</sub>H<sub>12</sub>N<sub>4</sub>O<sub>5</sub>

Batch Molecular Weight: 244.2

Physical Appearance: White solid

**Minimum Purity:** >98%

**Batch Molecular Structure:**



**References:**

**Schneider-Stock *et al*** (2005) 5-aza-Cytidine is a potent inhibitor of DNA methyltransferase 3a and induces apoptosis in HCT-116 colon cancer cells via Gadd45- and p53-dependent mechanisms. *J.Pharmacol.Exp.Ther.* **312** 525. PMID: 15547111.

**Mikkelsen *et al*** (2008) Dissecting direct reprogramming through integrative genomic analysis. *Nature* **454** 49. PMID: 18509334.

**Qian *et al*** (2012) 5-Azacytidine induces cardiac differentiation of human umbilical cord-derived mesenchymal stem cells by activating extracellular regulated kinase. *Stem Cells Dev.* **21** 67. PMID: 21476855.

**Storage:** Store at RT

**Solubility & Usage Info:**

water to 50 mM

DMSO to 100 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.

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