

Certificate of Analysis

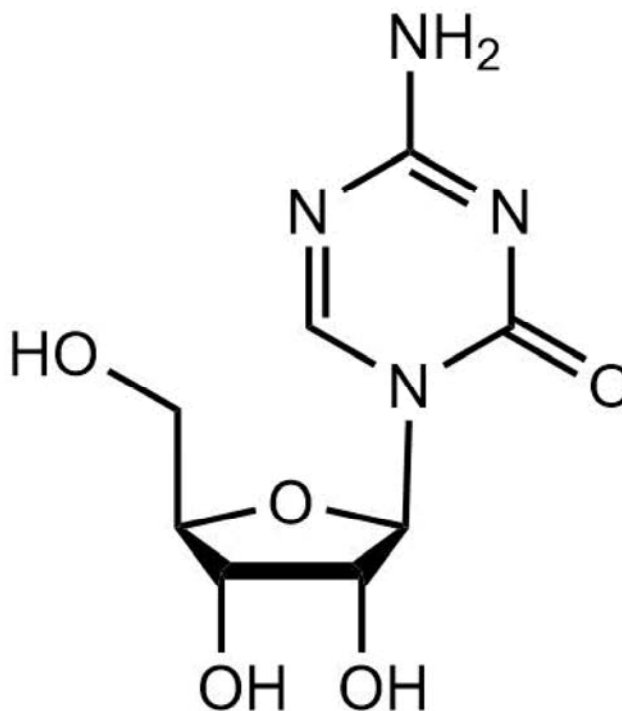
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Product Name: 5-Azacytidine
CAS Number: 320-67-2
IUPAC Name: 4-Amino-1-β-D-ribofuranosyl-1,3,5-triazin-2(1H)-one

Catalog No.: 3842
Batch No.: 4
EC Number: 206-280-2

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₈H₁₂N₄O₅.
Batch Molecular Weight: 244.2
Physical Appearance: White solid
Solubility: water to 50 mM
DMSO to 100 mM
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.0% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	39.35	4.95	22.94
Found	39.28	4.95	23.08

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

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Description:

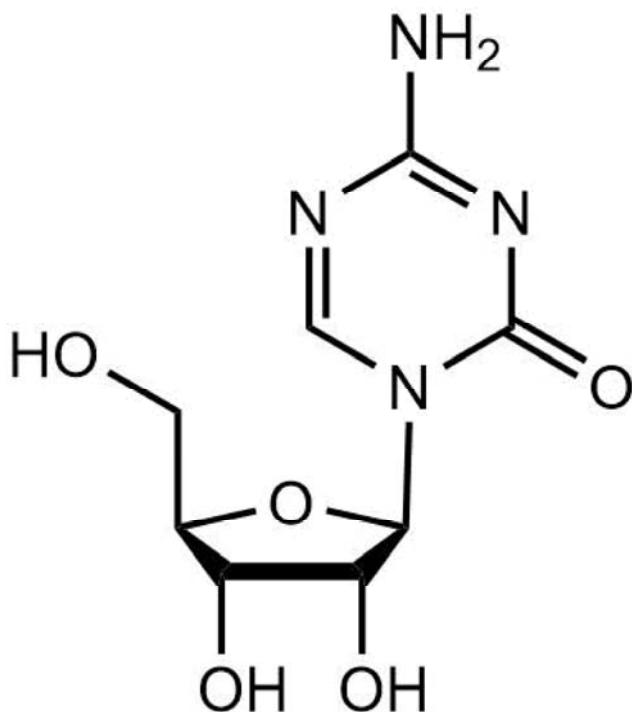
5-Azacytidine is a DNA methyltransferase inhibitor. Incorporates into DNA forming covalent adducts with cellular DNMT1, depleting enzyme activity. Induces demethylation and reactivation of silenced genes. Improves the efficiency of reprogramming of stem cells; induces differentiation of mesenchymal stem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

Physical and Chemical Properties:

Batch Molecular Formula: C₈H₁₂N₄O₅.
 Batch Molecular Weight: 244.2
 Physical Appearance: White solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at -20°C

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.

References:

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.

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

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

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