

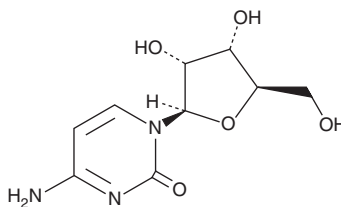
# PRODUCT INFORMATION



## Cytidine

Item No. 29602

**CAS Registry No.:** 65-46-3  
**Synonyms:** β-D-Cytidine, NSC 20258  
**MF:** C<sub>9</sub>H<sub>13</sub>N<sub>3</sub>O<sub>5</sub>  
**FW:** 243.2  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 271 nm  
**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

Cytidine is supplied as a solid. A stock solution may be made by dissolving the cytidine in the solvent of choice, which should be purged with an inert gas. Cytidine is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of cytidine in these solvents is approximately 10 and 3 mg/ml, respectively. Cytidine is slightly soluble in ethanol.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of cytidine can be prepared by directly dissolving the solid in aqueous buffers. The solubility of cytidine in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Cytidine is a pyrimidine nucleoside composed of ribose and a cytosine base.<sup>1</sup> It forms complementary base pairs with the purine nucleoside guanosine (Item No. 27702) in DNA and RNA. Cytidine is a precursor of uridine (Item No. 20300) and can also be phosphorylated by uridine-cytidine kinase to form CMP (Item No. 35116).<sup>1,2</sup> It rescues inhibition of proliferation induced by knockdown of CTP synthase 1 in T cells when used at a concentration of 200 μM.<sup>3</sup>

### References

1. Berg, J.M., Tymoczko, J.L., and Stryer, L. Nucleotide Biosynthesis. *Biochemistry*. 5<sup>th</sup> ed., W.H. Freeman (2002).
2. Chabner, B.A., Johns, D.G., Coleman, C.N., et al. Purification and properties of cytidine deaminase from normal and leukemic granulocytes. *J. Clin. Invest.* **53(3)**, 922-931 (1974).
3. Martin, E., Palmic, N., Sanquer, S., et al. CTP synthase 1 deficiency in humans reveals its central role in lymphocyte proliferation. *Nature* **510(7504)**, 288-292 (2014).

#### 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.

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