

Product Data Sheet

Product Name: Cytidine
Cat. No.: GC13729

Chemical Properties

Cas. No. 65-46-3

Chemical Name 4-amino-1-[(2R,3R,4S,5R)-3,4-dihydroxy-5-(hydroxymethyl)oxolan-2-yl]pyrimidin-2-one

SMILES C1=CN(C(=O)N=C1N)C2C(C(C(O2)CO)O)O

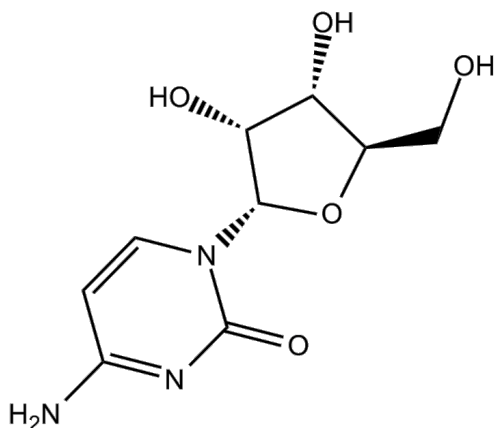
Formula $C_9H_{13}N_3O_5$ M.Wt 243.22

Solubility $\geq 11.85\text{mg/mL}$ in DMSO Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

Cytidine is a nucleoside molecule that is formed when cytosine is attached to a ribose ring, cytidine is a component of RNA. Target: Nucleoside antimetabolite/analog. Cytidine is a nucleoside molecule that is formed when cytosine is attached to a ribose ring (also known as a ribofuranose) via a β -N1-glycosidic bond. Cytidine is a component of RNA. If cytosine is attached to a deoxyribose ring, it is known as a deoxycytidine. Dietary sources of cytidine include foods with high RNA (ribonucleic acid) content, such as organ meats, Brewer's yeast, as well as pyrimidine-rich foods such as beer. During

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digestion, RNA-rich foods are broken-down into ribosyl pyrimidines (cytidine and uridine), which are absorbed intact. In humans, dietary cytidine is converted into uridine, which is probably the compound behind cytidine's metabolic effects. There are a variety of cytidine analogs with potentially useful pharmacology. For example, KP-1461 is an anti-HIV agent that works as a viral mutagen, and zebularine exists in *E. coli* and is being examined for chemotherapy. Low doses of azacitidine and its analog decitabine have shown results against cancer through epigenetic demethylation.

References:

- [1]. Jonas DA, et al. Safety considerations of DNA in food. *Ann Nutr Metab.* 2001;45(6):235-54.
- [2]. Wurtman RJ, et al. Effect of oral CDP-choline on plasma choline and uridine levels in humans. *Biochem Pharmacol.* 2000 Oct 1;60(7):989-92.

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