

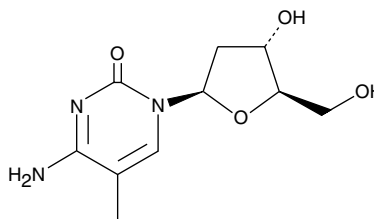
# Product Information



## 5-Methyl-2'-deoxycytidine

Item No. 16166

<b>CAS Registry No.:</b>	838-07-3
<b>Formal Name:</b>	2'-deoxy-5-methyl-cytidine
<b>Synonym:</b>	5-Methyldeoxycytidine
<b>MF:</b>	C <sub>10</sub> H <sub>15</sub> N <sub>3</sub> O <sub>4</sub>
<b>FW:</b>	241.2
<b>Purity:</b>	≥98%
<b>Stability:</b>	≥2 years at -20°C
<b>Supplied as:</b>	A crystalline solid
<b>UV/Vis.:</b>	λ <sub>max</sub> : 280 nm



### Laboratory Procedures

For long term storage, we suggest that 5-methyl-2'-deoxycytidine be stored as supplied at -20°C. It should be stable for at least two years.

5-Methyl-2'-deoxycytidine is supplied as a crystalline solid. A stock solution may be made by dissolving the 5-methyl-2'-deoxycytidine in the solvent of choice. 5-Methyl-2'-deoxycytidine is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of 5-methyl-2'-deoxycytidine in these solvents is approximately 20 and 5 mg/ml, respectively.

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 5-methyl-2'-deoxycytidine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 5-methyl-2'-deoxycytidine in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

5-Methyl-2'-deoxycytidine is a pyrimidine nucleoside that when incorporated into single-stranded DNA can act in *cis* to signal *de novo* DNA methylation.<sup>1</sup> It has been used in epigenetics research to investigate the dynamics of DNA methylation pattern in the control of gene expression.<sup>2</sup>

### References

1. Christman, J.K., Sheikhejad, G., Marasco, C.J., *et al.* 5-Methyl-2'-deoxycytidine in single-stranded DNA can act in *cis* to signal *de novo* DNA methylation. *Proc. Natl. Acad. Sci. USA* **92(16)**, 7347-7351 (1995).
2. Testillano, P.S., Solks, M.T., and Risueño, M.C. The 5-methyl-deoxy-cytidine (5mdC) localization to reveal in situ the dynamics of DNA methylation chromatin pattern in a variety of plant organ and tissue cells during development. *Physiol. Plant.* **149(1)**, 104-113 (2013).

### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/16166](http://www.caymanchem.com/catalog/16166)

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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