

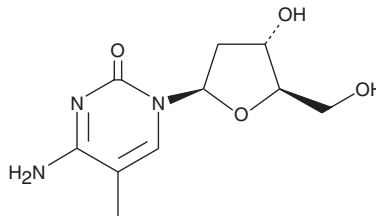
# PRODUCT INFORMATION



## 5-Methyl-2'-deoxycytidine

Item No. 16166

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

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, which should be purged with an inert gas. 5-Methyl-2'-deoxycytidine is soluble in organic solvents such as DMSO and dimethyl formamide. 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.

### Description

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., Sheikhnejad, 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., Solís, 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).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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