

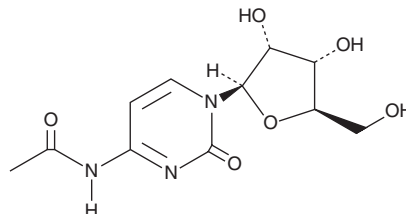
# PRODUCT INFORMATION



## N<sup>4</sup>-Acetylcytidine

Item No. 35219

CAS Registry No.: 3768-18-1  
Formal Name: N-acetyl-cytidine  
Synonym: ac<sup>4</sup>C  
MF: C<sub>11</sub>H<sub>15</sub>N<sub>3</sub>O<sub>6</sub>  
FW: 285.3  
Purity: ≥98%  
UV/Vis.: λ<sub>max</sub>: 215, 247, 299 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

N<sup>4</sup>-Acetylcytidine is supplied as a solid. A stock solution may be made by dissolving the N<sup>4</sup>-acetylcytidine in the solvent of choice, which should be purged with an inert gas. N<sup>4</sup>-Acetylcytidine is soluble in the organic solvent DMSO at a concentration of approximately 1 mg/ml.

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 N<sup>4</sup>-acetylcytidine can be prepared by directly dissolving the solid in aqueous buffers. The solubility of N<sup>4</sup>-acetylcytidine in PBS (pH 7.2) is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

N<sup>4</sup>-Acetylcytidine is a catabolite of cytidine.<sup>1</sup> It activates BV-2 microglia when used at a concentration of 0.3 mM, an effect that can be blocked by the adenosine A<sub>2A</sub> receptor antagonist SCH 58261 (Item No. 19676).<sup>2</sup> It also increases protein levels of the NOD-like receptor protein 3 (NLRP3) inflammasome, an effect that can be blocked by high mobility group box 1 (HMGB1) siRNA in BV-2 microglia. Urine levels of N<sup>4</sup>-acetylcytidine are increased in mice with tumors induced by 3-methylcholanthrene.<sup>1</sup> N<sup>4</sup>-Acetylcytidine is also found as a post-transcriptional modification in RNA.<sup>3</sup>

### References

1. Thomale, J. and Nass, G. Elevated urinary excretion of RNA catabolites as an early signal of tumor development in mice. *Cancer Lett.* **15**(2), 149-159 (1982).
2. Duan, J.J., Zhang, Q., Hu, X., *et al.* N<sup>4</sup>-acetylcytidine is required for sustained NLRP3 inflammasome activation via HMGB1 pathway in microglia. *Cell. Signal.* **58**, 44-52 (2019).
3. Bartee, D., Nance, K.D., and Meier, J.L. Site-specific synthesis of N<sup>4</sup>-acetylcytidine in RNA reveals physiological duplex stabilization. *J. Am. Chem. Soc.* **144**(8), 3487-3496 (2022).

#### 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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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897  
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM