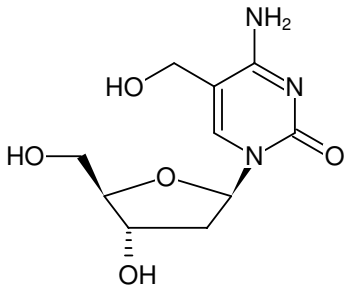
DATA SHEET

Jena Bioscience

5-Hydroxymethyl-dC

hmdC, 5-Hydroxymethyl-2'-deoxycytidine

Cat. No.	Amount
N-1070-100	100 mg



Structural formula of 5-Hydroxymethyl-dC

For general laboratory use.

Shipping: shipped at ambient temperature

Storage Conditions: store at -20 °C

Short term exposure (up to 1 week cumulative) to ambient temperature possible.

Shelf Life: 24 months after date of delivery

Molecular Formula: $C_{10}H_{15}N_3O_5$

Molecular Weight: 257.24 g/mol

Exact Mass: 257.10 g/mol

CAS#: 7226-77-9

Purity: ≥ 97 % (HPLC)

Form: solid

Color: white to off-white

Spectroscopic Properties: λ_{max} 275 nm, ε 7.7 L mmol^{-1} cm^{-1} (Tris-HCl pH 7.5)

Applications:
Epigenetic therapy[1,6]

Metabolism of dC substituted at position 5[2,3,5,7]

Influence on DNA promotor [4]

Selected References:

[1] Zauri *et al.* (2015) CDA directs metabolism of epigenetic nucleosides revealing a therapeutic window in cancer. *Nature* **524**:114.

[2] Guz *et al.* (2014) Comparison of the absolute level of epigenetic marks 5-methylcytosine, 5-hydroxymethylcytosine, and 5-hydroxymethyluracil between human leukocytes and sperm. *Biol. Reprod.* **91**:55.

[3] Liu *et al.* (2013) Detection of oxidation products of 5-methyl-2'-deoxycytidine in Arabidopsis DNA. *PLoS One* **8**:e84620.

[4] Schroeder (2014) Synthesis of a DNA promoter segment containing all four epigenetic nucleosides: 5-Methyl-, 5-hydroxymethyl-, 5-formyl-, and 5-carboxy-2'-deoxycytidine. *Angew. Chem. Int. Ed.* **53**:315.

[5] Schiesser *et al.* (2013) Deamination, oxidation, and C-C bond cleavage reactivity of 5-hydroxymethylcytosine, 5-formylcytosine, and 5-carboxycytosine. *J. Am. Chem. Soc.* **135 (39)**:14593.

[6] El Sadafi *et al.* (2010) 5-Modified-2'-dU and 2'-dC as mutagenic anti HIV-1 proliferation agents: synthesis and activity. *J. Med. Chem.* **53 (4)**:1534.

[7] Madugundu *et al.* (2014) Hydroxyl-radical-induced oxidation of 5-methylcytosine in isolated and cellular DNA. *Nucleic Acids Res.* **42 (11)**:7450.