**5-Ethynyl-2’-deoxycytidine (5-EdC)**

5-Ethynyl-2’-deoxycytidine

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Amount</th>
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<tbody>
<tr>
<td>CLK-N003-10</td>
<td>10 mg</td>
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</tbody>
</table>

**Structural formula of 5-Ethynyl-2’-deoxycytidine (5-EdC)**

*For research use only!*

**Shipping:** shipped at ambient temperature

**Storage Conditions:** store at -20 °C

**Additional Storage Conditions:** store dry and under inert gas

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

**Shelf Life:** 12 months after date of delivery

**Molecular Formula:** C₁₁H₁₃N₃O₄

**Molecular Weight:** 251.24 g/mol

**Purity:** ≥ 99 % (HPLC)

**Form:** off-white solid

**Solubility:** DMSO

**Spectroscopic Properties:** $\lambda_{\text{max}}$ 291 nm; $\varepsilon$ 8.5 L mmol⁻¹ cm⁻¹ (Tris-HCl pH 7.5)

**Applications:**

DNA synthesis monitoring¹

**Description:**

Ethynyl-labeled deoxycytidine (5-EdC) can be used as a replacement for BrdU (5-Bromo-2’-deoxyuridine) to measure *de novo* DNA synthesis during the S-phase of the cell cycle. 5-EdC is cell-permeable and incorporates into replicating DNA instead of its natural analog thymidine.

The resulting ethynyl-functionalized DNA can subsequently be detected via Cu(I)-catalyzed click chemistry that offers the choice to introduce a Biotin group (Azides of Biotin) for subsequent purification tasks or a fluorescent group (Azides of fluorescent dyes) for subsequent microscopic imaging [1].

Presolski *et al.*[²] and Hong *et al.*[³] provide a general protocol for Cu(I)-catalyzed click chemistry reactions that may be used as a starting point for the set up and optimization of individual assays.

**Related Products:**

5-Ethynyl-2’-deoxy-uridine (5-EdU), #CLK-N001

Copper (II)-Sulphate (CuSO₄), #CLK-M1004

Tris(3-hydroxypropyltriazolylmethyl)amine (THPTA), #CLK-1010

Sodium Ascorbate (Na-Ascorbate), #CLK-M1005

**Selected References:**

