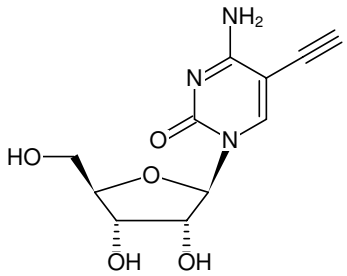
DATA SHEET

Jena Bioscience

5-Ethynyl-cytidine (5-EC)

Cat. No.	Amount
CLK-087	10 mg



Structural formula of 5-Ethynyl-cytidine (5-EC)

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: $C_{11}H_{13}N_3O_5$

Molecular Weight: 267.24 g/mol

Exact Mass: 267.09 g/mol

CAS#: 65223-78-1

Purity: ≥ 99 % (HPLC)

Form: solid

Color: white to off-white

Solubility: DMSO

Spectroscopic Properties: λ_{max} 294 nm, ε 8.5 L mmol^{-1} cm^{-1} (Tris-HCl pH 7.5)

Applications:
RNA synthesis monitoring[1]

Description:
Ethynyl-labeled cytidine (5-EC) can be used as a replacement for BrU (5-Bromo-uridine) to measure *de novo* RNA synthesis in proliferating cells. 5-EC is cell permeable and incorporates into nascent RNA instead of its natural analog cytidine.

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

Selected References:
[1] Qu *et al.* (2013) 5-Ethynylcytidine as a new agent for detecting RNA synthesis in live cells by click chemistry. *Anal. Biochem.* **434**:128.