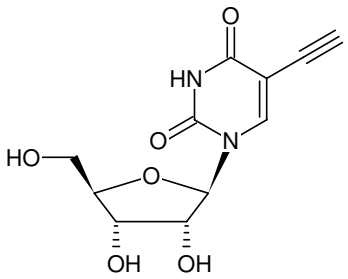
DATA SHEET

Jena Bioscience

5-Ethynyl-uridine (5-EU)

5-Ethynyl-uridine

Cat. No.	Amount
CLK-N002-10	10 mg



Structural formula of 5-Ethynyl-uridine (5-EU)

For general laboratory use.

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: $C_{11}H_{12}N_2O_6$

Molecular Weight: 268.22 g/mol

Exact Mass: 268.07 g/mol

CAS#: 69075-42-9

Purity: ≥ 99 % (HPLC)

Form: solid

Color: white to off-white

Solubility: Up to 200 mM in 1 x PBS or water by heating the obtained suspension for 1 minute by 70 °C, less soluble in DMSO

Spectroscopic Properties: λ_{max} 286 nm, ε 12.0 L mmol^{-1} cm^{-1} (Tris-HCl pH 7.5)

Applications:
RNA synthesis monitoring[1]

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

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.

Long term storage at < -20°C. If stored as recommended, Jena Bioscience guarantees optimal performance of this product for 12 months after date of delivery.

Related Products:
Copper (II)-Sulphate ($CuSO_4$), #CLK-MI004
Tris(3-hydroxypropyltriazolylmethyl)amine (THPTA), #CLK-1010
Sodium Ascorbate (Na-Ascorbate), #CLK-MI005

Selected References:
[1] Jao *et al.* (2008) Exploring RNA transcription and turnover in vivo by using click chemistry. *Proc. Nat. Acad. Sci. USA* **105 (41)**:15779.

[2] Presolski *et al.* (2011) Copper-Catalyzed Azide-Alkyne Click Chemistry for Bioconjugation. *Current Protocols in Chemical Biology* **3**:153.

[3] Hong *et al.* (2011) Analysis and Optimization of Copper-Catalyzed Azide-Alkyne Cycloaddition for Bioconjugation. *Angew. Chem. Int. Ed.* **48**:9879.