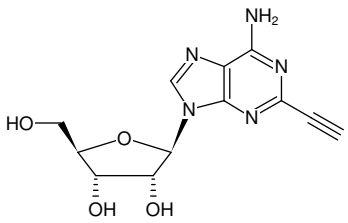
DATA SHEET

Jena Bioscience

2-Ethynyl-adenosine

Cat. No.	Amount
CLK-N005-1	1 mg
CLK-N005-5	5 mg



Structural formula of 2-Ethynyl-adenosine

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: 12 months after date of delivery

Molecular Formula: $C_{12}H_{13}N_5O_4$

Molecular Weight: 291.26 g/mol

Exact Mass: 291.10 g/mol

Purity: ≥ 95 % (HPLC)

Form: solid

Color: white to off-white

Solubility: up to 4.0 mM in 1 x PBS

Applications:
mRNA poly(A) tail synthesis monitoring[1]

Description:
2-Ethynyl-labeled adenosine (2-EA) can be used to measure *de novo* mRNA poly(A) tail synthesis in proliferating cells. 2-EA is cell permeable and incorporates into nascent mRNA transcripts both transcriptionally by RNA polymerase I,II and III and posttranscriptionally by poly(A) polymerase instead of their natural analolg adenosine.

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.

Related Products:
2-Ethynyl-ATP (2-EATP), #CLK-NU-004
5-Ethynyl-uridine (5-EU), #CLK-N002
Copper (II)-Sulphate ($CuSO_4$), #CLK-MI004
Tris(3-hydroxypropyltriazolylmethyl)amine (THPTA), #CLK-1010
Sodium Ascorbate (Na-Ascorbate), #CLK-MI005

Selected References:
[1] Curanovic *et al.* (2013) Global profiling of stimulus-induced polyadenylation in cells using a poly (A) trap. *Nat. Chem. Biol.* **9 (11)**:671.

[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.