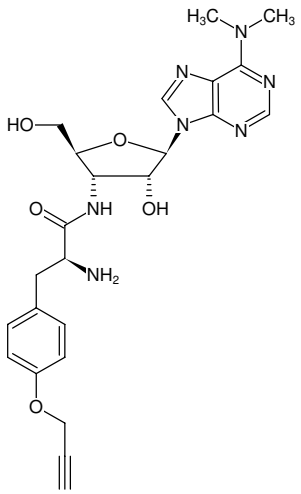
DATA SHEET

Jena Bioscience

O-Propargyl-puromycin

Acetate salt

Cat. No.	Amount
NU-931-05	0,5 mg (1 µmol)
NU-931-5	10 x 0,5 mg (10 µmol)



Structural formula of O-Propargyl-puromycin

For general laboratory use.

Shipping: shipped on gel packs

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: $C_{24}H_{29}N_7O_5$ (free amine)

Molecular Weight: 495.53 g/mol (free amine)

Exact Mass: 495.22 g/mol (free amine)

CAS#: 1416561-90-4

Purity: ≥ 95 % (HPLC)

Form: solid

Color: colorless to slightly white

Solubility: DMSO, PBS (up to 50 mM tested) pH adjusted to 5.0

Spectroscopic Properties: λ_{max} 275 nm, ε 20.0 L mmol^{-1} cm^{-1}

Applications:
Protein synthesis monitoring in cell culture and whole organisms[1,2]

Description:
Liu *et al.*[1] reported a non-radioactive alternative to analyze newly synthesized proteins in cell culture and whole organisms that is based on O-Propargyl-puromycin, an alkyne analog of puromycin.

O-Propargyl-puromycin is cell-permeable and incorporates into the C-terminus of translating polypeptide chains thereby stopping translation.

The resulting truncated C-terminal alkyne labeled proteins 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.

In contrast to Azidohomoalanine (AHA) or Homopropargylgycine (HPG) based non-radioactive methionine analog-approaches, methionine free-medium is not required for O-Propargyl-purmoycin-based monitoring of nascent protein synthesis.

Presolski *et al.*[4] and Hong *et al.*[5] 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:
Copper (II)-Sulphate ($CuSO_4$), #CLK-MI004
Tris(3-hydroxypropyltriazolylmethyl)amine (THPTA), #CLK-1010
Sodium Ascorbate (Na-Ascorbate), #CLK-MI005

Selected References:

[1] Liu *et al.* (2012) Imaging protein synthesis in cells and tissues with an alkyne analog of puromycin. *Proc. Natl. Acad. Sci. USA* **109 (2)**:413.

[2] Signer *et al.* (2014) Haematopoietic stem cells require a highly regulated protein synthesis rate. *Nature* **509**:49.

[3] Grammel *et al.* (2013) Chemical reporters for biological discovery. *Nat. Chem. Biol.* **9 (8)**:475.

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

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