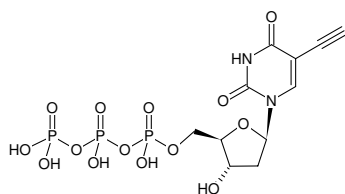




5-Ethynyl-dUTP (5-EdUTP)

5-Ethynyl-2'-deoxyuridine 5'-triphosphate, Sodium salt

| Cat. No. | Amount |
|------------|-------------------|
| CLK-T07-S | 5 µl (100 mM) |
| CLK-T07-L | 5 x 5 µl (100 mM) |
| CLK-T07-XL | 50 µl (100 mM) |



Structural formula of 5-Ethynyl-dUTP (5-EdUTP)

For research use only!

Shipping: shipped on blue ice

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: C₁₁H₁₅N₂O₁₄P₃ (free acid)

Molecular Weight: 492.16 g/mol (free acid)

Exact Mass: 491.97 g/mol (free acid)

Purity: ≥ 95 %

Form: clear aqueous solution

Concentration: 100 mM - 110 mM

pH: 7.5 ± 0.5

Spectroscopic Properties: λ_{max} 288 nm, ε 12.0 L mmol⁻¹ cm⁻¹ (Tris-HCl pH 7.5)

Applications:

Incorporation into DNA by **PCR** with family B polymerases (Pwo, Deep Vent *exo*⁻ or KOD XL)^[1,2]

Incorporation into DNA by **Primer Extension** with family A polymerase Taq and family B polymerases (Pwo, Deep Vent *exo*⁻ or KOD XL)^[1]

The resulting ethynyl-functionalized DNA can subsequently be processed via Cu(I)-catalyzed click chemistry that offers the choice

- to introduce a Biotin group (via Azides of Biotin) for subsequent purification tasks
- to introduce fluorescent group (via Azides of fluorescent dyes) for subsequent microscopic imaging
- to crosslink the DNA to Azide-functionalized biomolecules e.g. proteins

Presolski *et al.*^[3] and Hong *et al.*^[4] 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 (CuSO₄), #CLK-MI004

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

Sodium Ascorbate (Na-Ascorbate), #CLK-MI005

Selected References:

[1] Gierlich *et al.* (2007) Synthesis of Highly Modified DNA by a Combination of PCR with Alkyne-Bearing Triphosphates and Click Chemistry. *Chem. Eur. J.* **13**:9486.

[2] Burley *et al.* (2006) Directed DNA Metallization. *J. Am. Chem. Soc.* **128** (5):1398.

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

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