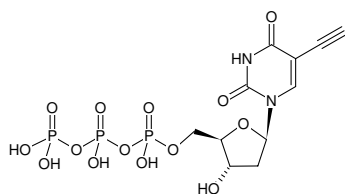




## 5-Ethynyl-dUTP (5-EdUTP)

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 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<sub>11</sub>H<sub>15</sub>N<sub>2</sub>O<sub>14</sub>P<sub>3</sub> (free acid)

**Molecular Weight:** 492.16 g/mol (free acid)

**Exact Mass:** 491.97 g/mol (free acid)

**Purity:** ≥ 95 %

**Form:** solution in water

**Color:** colorless to slightly yellow

**Concentration:** 100 mM - 110 mM

**pH:** 7.5 ± 0.5

**Spectroscopic Properties:** λ<sub>max</sub> 288 nm, ε 12.0 L mmol<sup>-1</sup> cm<sup>-1</sup> (Tris-HCl pH 7.5)

### Applications:

Incorporation into DNA by **PCR** with family B polymerases (Pwo, Deep Vent *exo*<sup>-</sup> or KOD XL)<sup>[1,2]</sup>

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

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.*<sup>[3]</sup> and Hong *et al.*<sup>[4]</sup> 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<sub>4</sub>), #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.