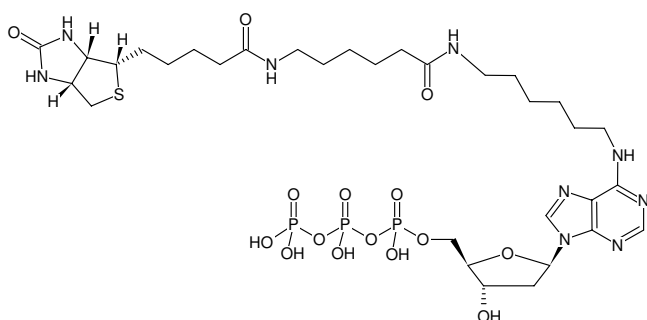


**Biotin-14-dATP**

Bio-14-dATP

Biotin-14-N<sup>6</sup>-(6-Aminoethyl)-dATP, Triethylammonium salt

Cat. No.	Amount
NU-835-BIO14-S	200 µl (1 mM)
NU-835-BIO14-L	5 x 200 µl (1 mM)



Structural formula of Biotin-14-dATP

**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<sub>32</sub>H<sub>54</sub>N<sub>9</sub>O<sub>15</sub>P<sub>3</sub>S (free acid)**Molecular Weight:** 929.81 g/mol (free acid)**Exact Mass:** 929.27 g/mol (free acid)**Purity:** ≥ 95 % (HPLC)**Form:** filtered solution (30 kDa) in 10 mM Tris-HCl**Color:** colorless to slightly yellow**Concentration:** 1.0 mM - 1.1 mM**pH:** 7.5 ± 0.5**Spectroscopic Properties:** λ<sub>max</sub> 266 nm, ε 16.2 L mmol<sup>-1</sup> cm<sup>-1</sup> (Tris-HCl pH 7.5)**Applications:**

Incorporation into DNA/cDNA by

- Nick Translation with DNase I/ DNA Polymerase I [1] & in-house data
- Primer Extension with Klenow fragment [2]

**Description:**

Biotin-14-dATP is enzymatically incorporated into DNA/cDNA as substitute for its natural counterpart dATP. The resulting Biotin-labeled DNA/cDNA probes are subsequently detected using streptavidin conjugated with horseradish peroxidase (HRP), alkaline phosphatase (AP), a fluorescent dye or agarose/magnetic beads. Optimal substrate properties for Nick Translation are ensured by a 14-atom linker attached to the N6 position of adenine. For PCR incorporation experiments e.g. with *Taq* polymerase Biotin-11-dATP (#NU-1175-BIOX) is recommended whose Biotin moiety is attached to the N7-Deaza position of adenine via a 11-atom linker.

Recommended Biotin-14-dATP/dATP ratio for Nick Translation: 50% Biotin-14-dATP/ 50% dATP

*Please note: The optimal final concentration of Biotin-14-dATP may vary depending on the application and assay conditions. For optimal product yields and high incorporation rates an individual optimization of the Biotin-14-dATP/dATP ratio is recommended.*

**Related Products:**

Biotin-11-dATP, #NU-1175-BIOX

Biotin-7-dATP, #NU-835-BIO

**Selected References:**

[1] Gebeyehu *et al.* (1987) Novel biotinylated nucleotide-analogs for labeling and colorimetric detection of DNA. *Nucleic Acids Res.* **15** (21):4513.

[2] Nagano *et al.* (2015) Single-cell Hi-C for genome-wide detection of chromatin interactions that occur simultaneously in a single cell. *Nature Protocols* **10** (12):1987.

Mumbach *et al.* (2016) HiChIP: Efficient and sensitive analysis of protein-directed genome architecture *Nature Protocols* **13** (11):919.