DATA SHEET

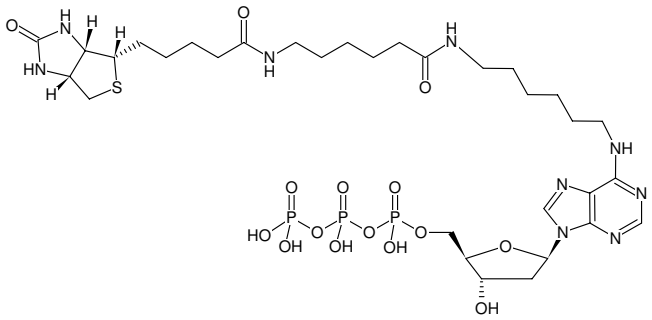
Jena Bioscience

Biotin-14-dATP

Bio-14-dATP

Biotin-14-N^6-(6-Aminohexyl)-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 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: $C_{32}H_{54}N_9O_{15}P_3S$ (free acid)

Molecular Weight: 929.81 g/mol (free acid)

Exact Mass: 929.27 g/mol (free acid)

Purity: ≥ 95 % (HPLC)

Form: sterile clear aqueous solution in 10 mM Tris-HCl

Concentration: 1.0 mM - 1.1 mM

pH: 7.5 ±0.5

Spectroscopic Properties: λ_{max} 266 nm, ε 16.2 L $mmol^{-1}$ cm^{-1} (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 very 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.