

Biotin-14-dATP

(Cat #: N123, N123T)

Product Description:

Biotin-14-dATP is a dATP analog which contains biotin attached at the 6 -position of the purine base by a 14-atom spacer arm. The biotin - labeled nucleotide is incorporated into DNA by nick translation in the presence of the deoxynucleotide triphosphates dTTP, dGTP and dCTP. Other labeling procedures (i.e., homopolymer, tailing with a terminal deoxynucleotidyl transferase, replacement synthesis with T4 DNA polymerase or random primed synthesis) may be satisfactory. The biotin-labeled DNA can be detected colorimetrically using Steptavidin-Alkaline Phosphatase Conjugate and NBT/BCIP or by chemiluminescence, using streptavidin alkaline phosphatase and an appropriate chemiluminescent substrate.

Table 1: Product Package & Storage

Cat#	Product Name	Volume	Storage
N123	Biotin-14-dATP	50 nmol	-20 °C, stable for up to 12 months when stored appropriately. (DO NOT FREEZE.)
N123T		1 μmol	

(1) N123 is provided as a liquid formulation, and can be stored as 0.4 mM solution in 125 μL of 100 mM Tris- HCl (pH 7.5), 0.1 mM EDTA. The amount provided is sufficient to label up to 50 μg of DNA by nick translation

(2) N123T is provided as a powder formulation, it can be stored as 0.4 mM solution in 2.5 mL of 100 mM Tris- HCl (pH 7.5), 0.1 mM EDTA. The amount provided is sufficient to label up to 1 mg of DNA by nick translation;

Quality Control:

Purity of biotin-14-dATP is evaluated by reverse phase HPLC. A single peak with >90% of the area must be observed.

Spectroscopic Properties:

λ_{max} =266 nm, ϵ =16.2 × 10³ M⁻¹cm⁻¹ (pH 7.5).

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

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