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Biotin-14-dATP

Catalog Number	Packaging Size
C431	50 nmol

Storage upon receipt: -20°C

I. Product Description

Biotin-14-dATP is provided 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. 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 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.

II. Quality Control

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

III. Spectroscopic Properties

$\lambda max=266$ nm, $\varepsilon=16.2 \times 10^3$ $M^{-1}cm^{-1}$ (pH 7.5)

IV. References

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

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.