

Biotin-14-dCTP

(Cat #: N122, N122T)

Product Description:

Biotin-14-dCTP is a dCTP 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 dATP. 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
N122	Biotin-14-dCTP	50 nmol	-20 °C, stable for up to 12 months when stored appropriately. (DO NOT FREEZE.)
N122T		1 µmol	

- (1) N122 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) N122T 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-dCTP is evaluated by reverse phase HPLC. A single peak with >90% of the area must be observed.

References:

- Vora et al. (2008) Comparison of detection and signal amplification methods for DNA microarrays. Mol Cell Probes. 22:294-300.
- Flickinger et al. (1992) Differential incorporation of biotinylated nucleotides by terminal deoxynucleotidyl transferase. Nucleic Acids Res. 20:2382-2382.
- Gebeyehu et al. (1987) Novel biotinylated nucleotide-analogs for labeling and colorimetric detection of DNA. Nucleic Acids Res. 15:4513-4534.
- Mackey et al. (1993) Use of random primer extension for concurrent amplification and nonradioactive labeling of nucleic acids. Anal Biochem. Focus® 14, 21.

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