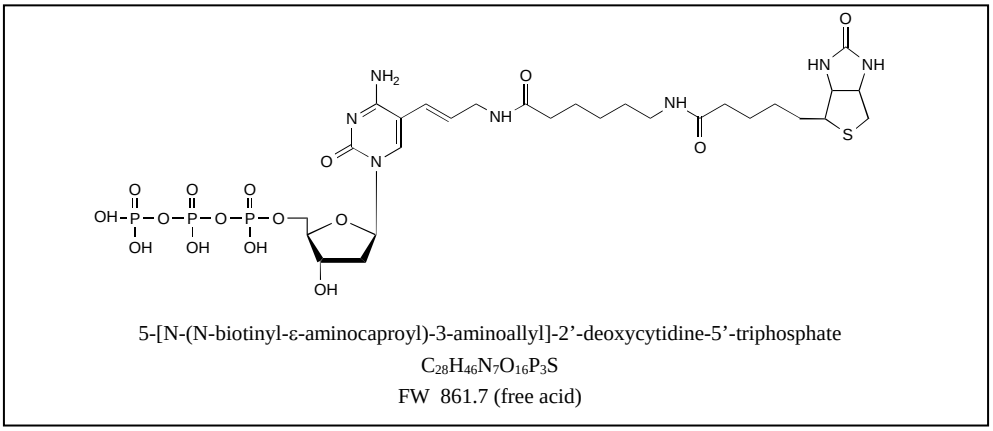
コスモ・バイオ株式会社

SPECIFICATION SHEET

Bio-11-dCTP (Biotin-11-2'-deoxycytidine-5'-triphosphate)

Cat. No. 42816



5-[N-(N-biotinyl-ε-aminocaproyl)-3-aminoallyl]-2'-deoxycytidine-5'-triphosphate

$C_{28}H_{46}N_7O_{16}P_3S$

FW 861.7 (free acid)

Concentration: 1 mM (ε_M = 9,100 at 271 nm, pH 7.0)

Quantity: 50 nmol, 50 µl

Appearance: Clear, colorless solution

Purity: Contains >92% Bio-11-dCTP and <5% Bio-11-dCDP by HPLC monitored at 271 nm

Storage: Store at -20°C.

Application: Bio-11-dCTP can replace dCTP in reactions in which it serves as a substrate for *E. coli* DNA polymerase I (holoenzyme and Klenow fragment), terminal deoxynucleotide transferase, T4 and *Taq* DNA polymerases and reverse transcriptase (from AMV and M-MuLV). Bio-11-dCTP can be used to produce biotinylated DNA probes in a variety of labeling reactions, including nick translation, random primed DNA synthesis and 3'-end labeling reactions.

The resultant biotin-labeled probes can be used in a variety of hybridization techniques including Southern blots, Northern blots or dot blots. The probes can also be used for *in situ* hybridization applications. The biotinylated probes have been shown to hybridize to homologous nucleic acid at the same rate and to the same extent as non-biotinylated probes.

The hybridized biotinylated DNA probes can be detected by their interaction with biotin-binding proteins, such as avidin, streptavidin or antibodies coupled to fluorescent dyes or color-producing enzymes. Complete kits and protocols are available for both membrane hybridization and detection procedures (Enzo's *MaxSense*® Hybridization and Detection Systems) and for *in situ* hybridization and detection procedures (Enzo's *SimplySensitive*® and *UltraSensitive*® Enhanced *In Situ* Detection Systems).

References:

1. Langer, P.R., Waldrop, A.A. and Ward, D.C. (1981) Enzymatic synthesis of biotin-labeled polynucleotides: Novel nucleic acid affinity probes. Proc. Natl. Acad. Sci. USA 78:6633-6637.
2. Brakel, C.L. and Engelhardt, D.L. (1985) Synthesis and detection of 3'-OH terminal biotin-labeled DNA probes. In D.T. Kingsbury and S. Falkow (eds) *Symposium on Rapid Detection and Identification of Infectious Agents*, Academic Press, New York, pp.235-243.
3. Brigati, D.J., Myerson, D., Leary, J.J., Spalholz, B., Travis, S.Z., Fong, C.K.Y., Hsiung, G.D. and Ward, D.C. (1983) Detection of viral genomes in cultured cells and paraffin-embedded tissue sections using biotin-labeled hybridization probes. Virology 126:32-50.

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