

Product Datasheet

Biotin-14-dCTP (orb533284)

Catalog Number	orb533284
Category	Small Molecules
Description	Biotin-14-dCTP is enzymatically incorporated into DNA/cDNA as sub-stitute for its natural counterpart dCTP. 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 sub-strate properties for Nick Translation are ensured by a 14-atom linker attached to the N4 position of cytosine. For PCR incorporation experiments e.g. with Taqpolymerase Biotin-11-dCTP or Biotin-16-dCTP are recommended whose Biotin moiety is attached to C5 position of cytidine via a 11-atom or 16-atom linker, respectively. Recommended Biotin-14-dCTP/dCTP ratio for Nick Translation: 50% Biotin-14-dCTP/50% dCTP.
Form/Appearance	filtered solution (30 kDa) in 10 mM Tris-HCl; Color: colorless to slightly yellow; pH: 7.5 ± 0.5
Concentration	1.0 mM-1.1 mM
Purity	≥ 95% (HPLC)
MW	Theoretical MW: 905.78 g/mol (free acid); Detected MW: 905.26 g/mol (free acid)
Application notes	Incorporation into DNA/cDNA by: Nick Translation with DNase I/DNA Polymerase I & in-house data; Primer Extension with Klenow fragment. Spectroscopic Propertie: λ _{max} 272 nm, ε 13.3 L mmol ⁻¹ cm ⁻¹ (Tris-HCl, pH 7.5).
Formula	C ₃₁ H ₅₄ N ₇ O ₁₆ P ₃ S
SMILES	OP(=O)(O)OP(=O)(O)OP(=O)(O)OC[C@H]1O[C@@H](n2ccc(nc2=O)NCCCCCNC(=O)CCCCCNC(=O)CCCC[C@H]2SC[C@@H]3NC(=O)N[C@H]23)C[C@@H]1O

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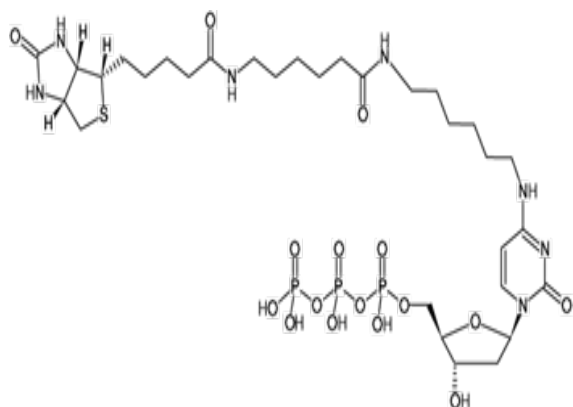
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Storage	store at -20 °C. Short term exposure (up to 1 week cumulative) to ambient temperature possible.
Note	For research use only
Expiration Date	12 months from date of receipt.



Structural formula of Biotin-14-dCTP.

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