Product Information

Biotinylated Nucleotides

Catalog No.	Nucleotide	MW	Format	Size
40029	Biotin-11-dUTP	886.5	1 mM in pH 7.5 Tris-HCl buffer	50 ul
40029-1			lyophilized powder	50 ug
40022	Biotin-16-dUTP	971.5	1 mM in pH 7.5 Tris-HCl buffer	50 ul
40022-1			lyophilized powder	50 ug
40030	Biotin-20-dUTP	1020.5	1 mM in pH 7.5 TE buffer	50 ul
40030-1			lyophilized powder	50 ug
40036	Biotin-11-dCTP	885.4	1 mM in pH 7.5 TE buffer	50 ul
40033	Biotin-11-UTP	902.5	10 mM in pH 7.5 Tris-HCl buffer	25 ul
40071			75 mM in pH 7.5 Tris-HCl buffer	30 ul
40023	Biotin-16-UTP	987.5	10 mM in pH 7.5 Tris-HCl buffer	25 ul
40070			75 mM in pH 7.5 Tris-HCl buffer	30 ul
40034	Biotin-20-UTP	1036.3	10 mM in pH 7.5 Tris-HCl buffer	25 ul
40035	Biotin-11-CTP	901.4	10 mM in pH 7.5 Tris-HCl buffer	25 ul

Storage and Handling

Store at -20°C, dessicated. Avoid repeated freeze-thaw cycles. Decomposition of about 5% may occur within 6 months.

For nucleotides in solid form, stock solutions may be prepared in water or aqueous buffer. Solutions can be aliquoted and stored at -20°C, for up to 6 months.

Molecular Information

Color and Form: Colorless liquid/solid
Solubility: Water or aqueous buffer

Product Description

Biotinylated nucleotides may be enzymatically incorporated into DNA or RNA for the synthesis of polynucleotide probes. Downstream detection of specific sequences can then be accomplished through streptavidin-based methods. Biotinylated UTP and CTP can be enzymatically incorporated into RNA via *in vitro* transcription using a variety of RNA polymerases. Biotinylated dUTP and dCTP may be incorporated into DNA via nick translation, random priming, or 3'-end terminal labeling.[1] Biotinylated dUTP are also used for the terminal deoxynucleotidyl transferase (TdT)-mediated biotin-dUTP nick end-labeling (TUNEL) method, a technique commonly used for apoptosis studies.[2-4] The numbers 11, 16, and 20 in the compound name refer to the number of atoms in the linker between biotin and the nucleotide. In general, biotinylated nucleotides with shorter linkers are more efficiently incorporated into polynucleotides. On the other hand, biotinylated nucleotides with longer linkers are predicted to bind more efficiently to avidin or streptavidin.

Note: For PCR applications, Taq polymerase should be used with dUTP conjugates, because dUTP inhibits archaeal polymerases such as Pfu and Vent.[5,6]

References

1) Anal. Biochem. 193, 2(1991); 2) J. Cell. Biol. 119, 493(1992); 3) NeuroReport, 7, 61(1995); 4) Biotechniques 19, 800(1995); 5) Anal Biochem. 211,164(1993); 6) PNAS 99,596(2002).

Related Products

Catalog number	Product
30063	CF®488A TUNEL Assay Apoptosis Detection Kit
30064	CF®594 TUNEL Assay Apoptosis Detection Kit
30074	CF®640R TUNEL Assay Apoptosis Detection Kit
40059	DEAC-dUTP
40001	5-TAMRA-dUTP
40063	Fluorescein-12-dUTP
40064	Cyanine 555 dUTP
40065	Cyanine 647 dUTP
40020	5-Aminoallyl-dUTP (AA-dUTP), 10 mM Solution
40021	5-Aminoallyl-UTP, Sodium Salt, 10 mM Solution
40024	BrdU (5-Bromo-2'-deoxyuridine)
40025	5-Bromo-dUTP, 10 mM Solution
40026	BrUTP, 10 mM Solution
40078	Digoxigenin-dUTP, Alkali Stable
29050	Cheetah™ HotStart Taq DNA Polymerase
40052	dNTP Set, 100 mM Each
41024-4L	Water, Ultrapure Molecular Biology Grade

Please visit our website at www.biotium.com to see our selection of fluorescent dUTP and dCTP labeled with our bright and photostable CF® dyes. Also see our environmentally friendly EvaGreen® qPCR master mixes, universal probe qPCR master mixes, dNTP mixes, and more.

Materials from Biotium are sold for research use only, and are not intended for food, drug, household, or cosmetic use.