Acyclonucleotide Set

NEW ENGLAND BioLabs Inc.
1-800-632-7799
info@neb.com
www.neb.com

N0460S 002110114011

N0460S

0.5 µmol each acyNTP **Lot: 0021101**

Store at –20°C **Exp: 1/14**

Description: Acyclonucleotide Set contains four separate tubes of acyNTPs (acyATP, acyCTP, acyGTP and acyTTP).

Acyclonucleotides (acyNTPs) act as chain terminators and are thus useful in applications that normally employ dideoxynucleotides such as DNA sequencing (1,2) and SNP detection (3). AcyNTPs are especially useful in applications with archaeon DNA Polymerases, more specifically with Therminator™ DNA Polymerase. Therminator DNA Polymerase is an engineered enzyme with an increased capacity to incorporate analogs with altered sugars, such as ribonucleotides, dideoxynucleotides, 2´ deoxynucleotides and especially acyclo-base analogs (4,5).

When used with Therminator DNA Polymerase (NEB #M0261), the concentration of acyclo-base analog is roughly equivalent to dideoxynucleotide concentrations used with Thermo Sequenase™ (see figure).

Supplied as: Acyclonucleotides are supplied as a dry powder. Addition of 50 µl of distilled or de-ionized (Milli-Q™) water will result in a final concentration of 10 mM acyNTP. The hydrated acyNTP solution should subsequently be stored at –20°C.

Quality Assurance: Acyclonucleotide solutions are certified free of nucleases and phosphatases. Functional purity is determined by chain termination sequencing reactions.

References:

1. Sanger, F., Nicklen, S. and Coulson, A.R. (1977) *Proc. Natl. Acad. Sci.* USA 74, 5463–5467.
2. Trainor, G.L. (1996) U.S. Patent #5, 558,991.
3. Haff, L.A. and Simirnov, I.P. (1997) *Genome Methods* 7, 378–388.
4. Gardner, A.F. and Jack, W.E. (1999) *Nucleic Acids Res.* 27, 2545–2553.
5. Gardner, A.F. and Jack, W.E. (2002) *Nucleic Acids Res.* In press.

Companion Product:

Therminator DNA Polymerase (NEB #M0261)

For Research Use Only.

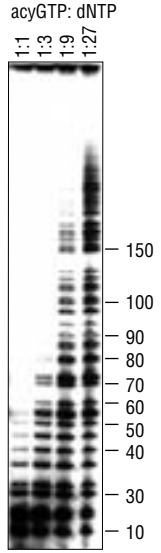

Figure Legend: *(50 ng/µl single-stranded M13mp18 DNA, 0.05 µM [^{32}P]-S1224S primer, 1X ThermoPol Buffer, 50 µM dNTP, varying acyGTP and 0.05 units/µl Therminator) were mixed, incubated at 94°C for 5 minutes and then thermal cycled for 25 cycles at 94°C (30 seconds); 55°C (30 seconds); 72°C (30 seconds). Reaction products were separated on a denaturing polyacrylamide gel (QuickPoint, NOVEX, Inc.) and analyzed by autoradiography. Numbers above each lane give the molar ratio of acyGTP to dNTP in each lane (i.e., 50, 17, 5,6 and 1.9 µM acyGTP, respectively). Numbers to the side of the gel indicate the length of the primer extension product added to the primer.*

CERTIFICATE OF ANALYSIS

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Companion Product:

Therminator DNA Polymerase (NEB #M0261)

Thermo Sequenase™ is a trademark of Amersham BioSciences.

Milli-Q™ is a trademark of Millipore Corporation.

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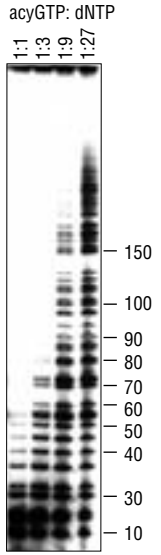

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