3´-Desthiobiotin-GTP

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N0761S 001161019101

N0761S

0.5 µmol **Lot: 0011610** **Exp: 10/19**

5 mM **Store at –20°C**

Description: Cappable-seq™ is a method for directly enriching the 5´ end of primary transcripts developed at New England Biolabs. The method enables determination of transcription start sites at single base resolution (1). This is achieved by capping the 5´ triphosphorylated end of RNA with Vaccinia Capping System (NEB #M2080) and 3´-Desthiobiotin-GTP. The primary transcripts are then bound to Hydrophilic Streptavidin Magnetic Beads (NEB #S1421), washed and eluted with free biotin.

Supplied in: Ultrapure water as a Triethylammonium salt at pH 7.0

Molecular Formula: $C_{31}H_{52}N_{11}O_{19}P_3$

Molecular Weight: 975.74 g/mol

Extinction Coefficient: λ260 = ~11,700 Lmol-1 cm-1

Quality Control Assays

Functional Testing: A 20 µl reaction in Capping Buffer containing 0.5 mM 3´-Desthiobiotin-GTP, 0.1 mM SAM, 62.5 ng of a 25 mer RNA transcript, 20 units of Vaccinia Capping Enzyme and 0.05 units of Yeast Inorganic Pyrophosphatase incubated for 30 minutes at 37°C results in > 90% capped transcript as determined by gel electrophoresis

RNase Activity: A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 5 nmoles of 3´-Desthiobiotin-GTP is incubated at 37°C. After incubation for 16 hours, > 90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.

Endonuclease Activity: A 50 µl reaction in NEBuffer 4 containing 1 µg of supercoiled ϕX174 DNA and a minimum of 5 nmoles of 3´-Desthiobiotin-GTP incubated for 4 hours at 37°C results in < 10% conversion to the nicked form as determined by agarose gel electrophoresis.

Physical Purity: 3´-Desthiobiotin-GTP is ≥ 95% pure as determined by HPLC analysis.

References:

1. Ettwiller, L. et al. (2016) *BMC Genomics* 17, 199.

ISO 9001 Registered Quality Management
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V1.0

CERTIFICATE OF ANALYSIS

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CERTIFICATE OF ANALYSIS