

DNA Polymerase I (*E. coli*)



Catalog: RK20530

Size: 500 U / 2,500 U

Concentration: 10,000 U/ml

Components:

DNA Polymerase I (<i>E. coli</i>) (10,000 U/ml)	RM20518
10X ABuffer B	RM20126

Heat Inactivation: 75°C for 20 min

Molecular Weight: Theoretical 103000 daltons

Product Description

DNA Polymerase I (*E. coli*) is a DNA-dependent DNA polymerase with inherent 3' → 5' and 5' → 3' exonuclease activities. The 5' → 3' exonuclease activity removes nucleotides ahead of the growing DNA chain, allowing nick-translation.

It is applicable to nick translation of DNA for obtaining probes with high specific activity and for the second-strand synthesis of cDNA.

Product Source:

An *E. coli* strain that carries an overexpressed copy of the *polA* gene.

Unit Definition:

One unit is defined as the amount of enzyme that incorporates 10 nmol of dNTP into acid insoluble material in 30 minutes at 37°C.

Storage Temperature: -20°C

Storage Conditions:

25 mM Tris-HCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, pH 7.4 @ 25°C

Reaction Conditions:

1X ABuffer B, Incubate at 37°C

1X ABuffer B:

10 mM Tris-HCl, 50 mM NaCl, 10 mM MgCl₂, 1 mM DTT, pH7.9 @ 25°C

5' - 3' Exonuclease: Yes

3' - 5' Exonuclease: Yes

Strand Displacement: No

Error Rate: < 9x10⁻⁶ bases

Notes:

- DNase I is not included with this enzyme and must be added for nick translation reactions.
- DNA Polymerase I (*E. coli*) is active in ABuffer A/B/C/S when supplemented with dNTPs (not included).

QC Process:

- Purity is above 95% detected by SDS-PAGE.
- No nuclease, RNase contamination.
- No residual host genomic DNA detected by PCR.

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