Intact Genomics® DNA Polymerase I, Large (Klenow) Fragment

Catalog #	3261	3262
Package Size	200 units	1,000 units
Volume	40 µl	200 µl
Concentration	5 units/µl	

Description

Large Fragment of DNA Polymerase I (Klenow) is a product of E. coli DNA Polymerase I which lacks the N-terminal 324 amino acids. This enzyme lacks the 5'→ 3' exonuclease activity of intact DNA Polymerase I, but does exhibit the 5'→ 3' DNA polymerase and 3'→ 5' exonuclease activities

Protein Purity

The physical purity of this enzyme is ≥99% as assessed by SDS-PAGE with Coomassie® blue staining (see figure below).

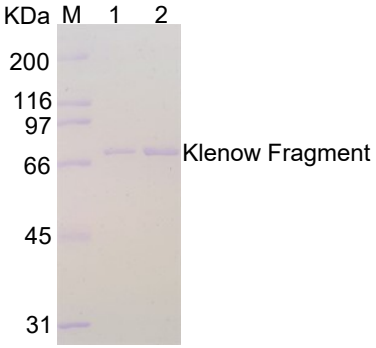

Figure: Lane M. Protein Marker
Lane 1. 0.5 µg of Klenow Fragment
Lane 2. 1.0 µg of Klenow Fragment

Product Source

E.coli cells carrying E. coli polA gene without its N-terminal exonuclease domain.

Applications

- 3´-overhangs removal to form blunt ends (1).
- 5´-overhangs fill-in to form blunt ends (1).
- DNA library preparation for Next-generation sequencing (2).
- 3'-end-labeling of DNA fragments using α-32P deoxynucleotides.
- Second strand cDNA synthesis.
- Single-stranded DNA probes generation.

Product Includes

1) DNA Polymerase I, Large (Klenow) Fragment
2) 10x Klenow Reaction Buffer

Storage Temperature

–20 °C

Storage Buffer

50 mM Tris-HCl (pH 7.5)
0.1 mM EDTA
1 mM β-mercaptoethanol
1 mM DTT
50% (v/v) glycerol.

10x Klenow Reaction Buffer

500 mM Tris-HCl
100 mM $MgCl_2$
50 mM dithiothreitol (DTT)
pH 7.5 @ 25 °C.

Inactivation

Inactivated by heating at 75 °C for 20 min.

Quality Control Assays

DNA Polymerase I, Klenow Fragment is free from detectable endonuclease and RNase activities.

References

1. Sambrook, J., Fritsch, E.F. and Maniatis, T. (1989). Molecular Cloning: A Laboratory Manual. (2nd ed.), 5.40-5.43. Cold Spring Harbor: Cold Spring Harbor Laboratory Press.
2. Sanger, F. et al. (1977). Proc. Natl. Acad. Sci. USA. 74, 5463-5467.