Creative Enzymes
Diagnostic Enzymes

DNA Polymerase I Large (Klenow) Fragment

Product Information

MW	70 kDa (Reducing)
Cat#	POL-001
Form	Liquid
Label	His Tag
Notes	Due to the 3′→5′ exonuclease activity of the enzyme, increasing the reaction temperature, adding too much enzyme, not adding dNTP or too long reaction time will lead to the formation of the dented end. Please avoid repeated freeze-thaw cycles
Purity	> 95% by SDS-PAGE and HPLC
Storage	Store at -25 ~ -15°C for 2 years.
Activity	5 U/μL
Synonyms	Klenow Fragment DNA Polymerase I Large (Klenow) Fragment
Component	5 U/μL Klenow Fragment, 25 mM Tris-HCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, pH 7.4 at 25°C
Description	The Klenow Fragment, is a large fragment of E.coli. DNA polymerase I. It retains the 3′→5′ exonuclease activity of DNA polymerase I, but lacks the 5′→3′ exonuclease activity of the intact DNA polymerase I.
Applications	The 3′→5′ exonuclease activity of Klenow Fragment ensures accurate proofreading when synthesizing DNA. It is used to fill in the 5′ overhang ends of double-stranded DNA; and double-stranded DNA 3′ overhang flattening (also called trimming). It can also be used for the synthesis of the second strand of cDNA or the synthesis of the second strand of site-specific mutation reaction.
Specification	200 U; 1000 U
Dilution Buffer	25 mM Tris-HCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, pH 7.4 at 25°C
Molecular Marker	Unconjugated

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Expression System	E.coli
10× Reaction Buffer	50 mM NaCl, 10 mM Tris-HCl, 10 mM $MgCl_2$, 1 mM DTT (pH 7.9 at 25°C).
Activity Definitions	One unit is defined as the amount of enzyme required to incorporate 10 nmol of dNTP into acid insoluble substances at 37 °C for 30 minutes.

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