
KlenThermase™ DNA Polymerase

CAT. NO. DP-018-0050, 5000 units, 25 units/μl

APPLICATION

Fidelity The relative mutation rate during polymerization is twofold lower for KlenThermase™ as compared to the full-length Taq DNA polymerase.

Cycle sequencing The absence of the 5'-3' exonuclease activity makes KlenThermase™ especially suitable for cycle sequencing. It gives higher sequence intensity and very low backgrounds. The mutational optimization improves the uniformity of band intensities. Combination of KlenThermase™ with Tth inorganic pyrophosphatase generates uniform bands that improve sequencing accuracy and give long read lengths.

DESCRIPTION

KlenThermase™ DNA polymerase is an optimized version of KlenTherm™ DNA polymerase designed for cycle sequencing with dideoxynucleotides. This enzyme is recommended both for manual DNA sequencing with ³⁵S label and for automated fluorescent DNA sequencing. Mutations have been introduced into the KlenTherm™ DNA polymerase that confers on this enzyme enhanced properties for cycle sequencing of double-stranded PCR products. KlenThermase™ is similar to, yet distinct from, USB ThermoSequenase. We

recommend using KlenThermase™ with our thermostable Tth inorganic pyrophosphatase (1 unit of Tth inorganic pyrophosphatase added to 10 units of KlenThermase™) for further improvement of uniformity of band intensities.

CONCENTRATION

25 units/μl

UNIT DEFINITION

One unit is defined as the amount of enzyme that incorporates 10 nmoles of dNTPs into acid insoluble form in 30 minutes at 72°C under the assay conditions (25 mM TAPS (tris-(hydroxy-methyl)-methyl-amino-pro panesulfonic acid, sodium salt) pH 9.3 (at 25°C); 50 mM KCl; 2 mM MgCl₂; 1 mM β-mercaptoethanol) and activated calf thymus DNA as substrate.

STORAGE BUFFER

10 mM K-phosphate buffer pH 7.0, 100 mM NaCl, 0.5 mM EDTA; 1 mM DTT, 0.01% Tween 20; 50% glycerol (v/v).

STORAGE TEMPERATURE

-20°C.

5X ANNEALING BUFER

260 mM Tris-HCl (pH 9.5 at 25°C), 65 mM MgCl₂.