

Products	Cat #	Pack Size
KlenThermase™ DNA Polymerase	GC-018-0250	250 u
KlenThermase™ DNA Polymerase	GC-018-0500	500 u

### DESCRIPTION

**KlenThermase™ DNA polymerase** is an optimised version of KlenTherm™ DNA polymerase designed for **cycle sequencing with dideoxynucleotides**. This enzyme is recommended both for manual DNA sequencing with <sup>35</sup>S label and for **automated fluorescent DNA sequencing**. Mutations have been introduced into the KlenTherm™ DNA polymerase that confer on this enzyme enhanced properties for cycle sequencing of double-stranded PCR products. We recommend to use 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.

### APPLICATION

- **Fidelity** The relative mutation rate during polymerisation 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.

### 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-(hydroxymethyl)-methyl-aminopropane-sulfonic acid, sodium salt) pH 9.3 (at 25°C), 50 mM KCl, 2 mM MgCl<sub>2</sub>, 1 mM 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

Store KlenThermase™ DNA polymerase below 0°C, preferably at -20°C, in a constant temperature.

### 5 x ANNEALING BUFFER

260 mM Tris-HCl (pH 9.5), 65 mM MgCl<sub>2</sub>