

Products	Cat #	Pack Size
KlenThermN™ DNA Polymerase	GC-023-0250	250 u
KlenThermN™ DNA Polymerase	GC-023-0500	500 u
KlenThermN™ DNA Polymerase	GC-023-1000	1000 u
KlenThermN™ DNA Polymerase	GC-023-5000	5000 u

DESCRIPTION

Substitution of Asn for the conserved Ser543 in the thumb subdomain of the Taq DNA polymerase large fragment (KlenTherm™ DNA Polymerase) prevents pausing during DNA synthesis and allows the enzyme to overcome **template regions with a complex secondary structure**. The mutant enzyme, KlenThermN™ DNA polymerase (patent pending), provides specific PCR amplification and sequencing of **difficult templates**, e.g. those with a **high GC content or complex secondary structure**. Furthermore this substitution increases several times the efficiency of synthesis of long (over 2 kb) DNA molecules. The difference in the DNA synthesis efficiencies by the mutant and native enzymes increases with the increase in the DNA fragment length.

CONCENTRATION

10 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 min at 73°C under the assay conditions 25 mM TAPS (tris-(hydroxy-methyl)-methyl-amino-propanesul-fonic acid, sodium salt) pH 9.3 (at 25°C), 50 mM KCl, 3.5 mM MgCl₂, 1 mM β-mercapto ethanol) and activated salmon sperm 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 KlenThermN™ DNA polymerase, preferably at -20°C, in a constant temperature freezer.

10X REACTION BUFFER

500 mM KCl, 100 mM Tris-HCl (pH 9 at 25°C), 1% Triton X100

Extra solution: 50 mM MgCl₂, add MgCl₂ to a final concentration of 3.5 mM.

Please note the difference between KlenTherm™ and BioTherm™ reaction buffers!

Cat. No **GC-001-006** 1.5 ml 10x reaction buffer