**KlenThermN™ DNA Polymerase**

<table>
<thead>
<tr>
<th>Products</th>
<th>Cat #</th>
<th>Pack Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>KlenThermN™ DNA Polymerase</td>
<td>GC-023-0250</td>
<td>250 u</td>
</tr>
<tr>
<td>KlenThermN™ DNA Polymerase</td>
<td>GC-023-0500</td>
<td>500 u</td>
</tr>
<tr>
<td>KlenThermN™ DNA Polymerase</td>
<td>GC-023-1000</td>
<td>1000 u</td>
</tr>
<tr>
<td>KlenThermN™ DNA Polymerase</td>
<td>GC-023-5000</td>
<td>5000 u</td>
</tr>
</tbody>
</table>

**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 -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 KlenThermTM and BioThermTM reaction buffers!

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