# Technical Datasheet

# SuperTaq Polymerase

| | | | |
|---|---|---|---|
| Cat No: | 020505 | Pack size: | 50U |
| | 020511 | | 250U |
| | 020503 | | 500U |
| | 020521 | | 1kU |
| | 020531 | | 5kU |
| Lot No: | _____ | Concentration: | 5U/µl[1] |

Unit Definition: One unit is the amount of enzyme required to incorporate 10nmoles total nucleotides into acid-insoluble material in 30 min at 74°C.

Assay conditions:
25mM TAPS (pH 9.3 at 25°C)
50mM KCl
2mM $MgCl_2$
0.2mM dNTPs each
0.5mg/ml activated salmon sperm DNA
1mM 2-mercaptoethanol

Storage buffer: 50mM Tris-HCl (pH 8.0)
1mM EDTA
1mM DTT
50% v/v glycerol and stabilizers

10X PCR buffer: 100mM Tris-HCl (pH 9.0)
15mM $MgCl_2$
500mM KCl
1% Triton X-100
0.1% w/v stabiliser

QC Assay: This enzyme has been tested for the absence of endonuclease and exonuclease activities. It is >95% pure by SDS gel electrophoresis analysis. Each batch is assayed for amplification by PCR of the 506bp fragment of the *Thermus thermophilus* RNase H gene.

PCR Optimisation:

1. If the PCR reaction is not as effective as expected under the normal buffer conditions, try increasing Mg concentration to 1.75mM with 0.3mM dNTPS each final concentration.
2. For medium-sized amplifications (1-2kb fragment), it is possible to obtain better amplification by carrying out the elongation at 68°C rather than at 72°C.
3. Use the same amount of enzyme but at a higher concentration (ie: dilute in a smaller volume). This is very important when doing more difficult PCR like RAPDS, PCR of tailed DNA, or single cell copy PCR. A better result can normally be obtained by using, for example, 0.5µl of 1U/µl enzyme, rather than 1µl of 0.5U/µl.

Storage: Store at –20˚C.

[1] A higher concentration of SuperTaq is also available for RAPDS and other difficult PCR. Please call for details.