Technical Data

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Taq DNA Polymerase

Cat. No.:			
	TP-0200-A1	**200 u**	**Taq DNA Polymerase (5 u/µl), buffer A with $MgCl_2$**
	TP-1000-A1	**1000 u**	**Taq DNA Polymerase (5 u/µl), buffer A with $MgCl_2$**
	TP-0200-A0	**200 u**	**Taq DNA Polymerase (5 u/µl), buffer A without $MgCl_2$**
	TP-1000-A0	**1000 u**	**Taq DNA Polymerase (5 u/µl), buffer A without $MgCl_2$**
	TP-0200-B1	**200 u**	**Taq DNA Polymerase (5 u/µl), buffer B with $MgCl_2$**
	TP-1000-B1	**1000 u**	**Taq DNA Polymerase (5 u/µl), buffer B with $MgCl_2$**
	TP-0200-B0	**200 u**	**Taq DNA Polymerase (5 u/µl), buffer B without $MgCl_2$**
	TP-1000-B0	**1000 u**	**Taq DNA Polymerase (5 u/µl), buffer B without $MgCl_2$**

Source: Isolated from a recombinant *E. coli* strain.

Description: Taq DNA polymerase is a thermostable enzyme of approximately 94 kDa isolated from eubacterium *Thermus aquaticus* strain YT-1. This unmodified enzyme replicates DNA at 72 °C. The enzyme catalyzes the polymerization of nucleotides into duplex DNA in the 5'-3' direction in the presence of magnesium ions and possesses a 5'-3' exonuclease activity. The enzyme is highly purified and is free of nonspecific endo- or exonucleases. Taq DNA polymerase adds extra 3'-dA nucleotide(s) overhangs to its reaction products.

Concentration: **5 u/µl**

Storage conditions: 20 mM Tris-HCl (pH 7.6); 100 mM KCl; 0.1 mM EDTA; 1 mM DTT; 0.5% Triton X-100; 50% glycerol.
Store at -20 °C.

Reaction buffer A w $MgCl_2$ (1x): 60 mM Tris-HCl (pH 8.5 at 25 °C); 1.5 mM $MgCl_2$; 25 mM KCl; 10 mM 2-mercaptoethanol; 0.1% Triton X-100

Reaction buffer A w/o $MgCl_2$ (1x): 60 mM Tris-HCl (pH 8.5 at 25 °C); 25 mM KCl; 10 mM 2-mercaptoethanol; 0.1% Triton X-100

Reaction buffer B w $MgCl_2$ (1x): 16 mM $(NH_4)_2SO_4$; 67 mM Tris-HCl (pH 8.8); 0.1% Tween 20; 2.5 mM $MgCl_2$

Reaction buffer B w/o $MgCl_2$ (1x): 16 mM $(NH_4)_2SO_4$; 67 mM Tris-HCl (pH 8.8); 0.1% Tween 20

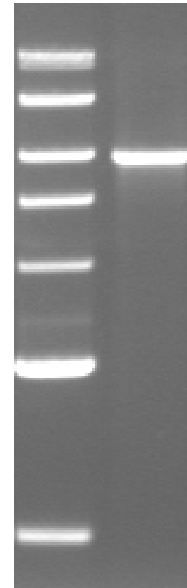
Unit definition: One unit of enzyme catalyzes the incorporation of 10 nanomoles of dNTPs into adsorable form in 30 minutes at 72 °C.

Units assay conditions: 60 mM Tris-HCl (pH 8.5); 25 mM KCl; 1.5 mM $MgCl_2$; 0.1% Triton X-100; 10 mM 2-mercaptoethanol; 200 µM dATP, dCTP, dGTP; 50 µM ^{3}H-TTP; 12.5 µg activated calf thymus DNA.

Reaction Conditions (for a 50 µl volume)

10x Taq DNA Polymerase buffer	5 µl
$MgCl_2$	as required
40 mM dNTP Mix	0.5 – 1.0 µl
Primer I (0.1 - 1 µM)	as required
Primer II (0.1 - 1 µM)	as required
Template DNA (10 pg - 1 µg)	as required
NatuTec Taq DNA Polymerase (5 u/µl)	0.25 – 1.0 µl
(50 mM $MgCl_2$ Solution)	(1.5 – 4.0 µl)
Water (ddH_2O)	up to 50 µl

Initial Denaturing:	94 – 96℃ for 5 min
Denaturing:	94 – 96℃ for 45 sec
Annealing:	depends on your template
Elongation :	70 – 72℃ (allowing 30 – 60 sec/kb)
Final Elongation:	70 – 72℃ for 7 min
Cycles:	25 – 30



6 kb amplification control:

Template was genomic DNA of *Staphylococcus aureus.*
Lane 1: 1 kb DNA marker
Lane 2: amplified 6 kb DNA fragment

Please note:
This data is intended for use as a guide only.
Conditions will vary from reaction to reaction and may need optimisation.

Patent Disclaimer:

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