WIRAGEN
Molecular Research Tools

TECHNICAL SHEET:

Taq DNA Polymerase

Ref: PW04 **Storage: -20°C**

Contents :

product	size
Taq DNA Polymerase	500 Units
10 x Taq Buffer	0.5 ml

Description :

Taq polymerase is purified from E.coli expressing a cloned DNA polymerase from Thermus aquaticus. The enzyme consists of a single polypeptide with a molecular weight approximately 94 KDa. Taq polymerase has **5′-3′** DNA polymerase activity and 5′- 3′ exonuclease activity. it lacks 3′-5′ exonuclease activity. Taq polymerase is suitable for routine amplification. PCR products are unsuitable for PAGE.

Highlights :

- Extension rate is about 1-2 Kb/min.
- Template-independent A can be generated at the 3′ end of the PCR product.
- PCR products can be directly cloned into pEAT vectors.
- Amplification of genomic DNA fragment up to 4 KB.

Application :

- Routine PCR
- Colony PCR

Unit Definition :

One unit of Taq Polymerase incorporates 10 nmol of deoxyribonucleotide into acid-precipitable material in 30 minutes at 74°C.

Quality content :

Taq polymerase has passed the following quality control assays : functional absence of double-and single-strand endonuclease activity homogenous measured by SDS-PAGE. Each batch of taq Polymerase has been assayed for amplification efficiency to amplify p53 gene form 10 ng of human genomic DNA

Storage Buffer :
20 mM Tris-HCL (PH 8.0), 0.1 mM EDTA, 1 mM DTT, 100 mM KCL, 50 % glycerol, stabilizes

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10x Taq Buffer (with Mg+)
200 mM Tris-HCL (pH 8.3), 200 mM KCL. 100 mM $(NH_4)_2SO_4$. 20 mM $MgSO_4$, others.

Reaction Components :

Component	Volume	Final concentration
DNA (Template)	Variable	As required
Forward primer (10uM)	1 ul	0.2 uM
Reverse primer (10uM)	1 ul	0.2 uM
10xTaq Buffer	5 ul	500 ul
2,5 mM dNTPs	4 ul	400 ul
Taq Polymerase	0.5-1ul	5 x 100 units
ddH2O	Variable	
Total volume	50 ul	

Thermal cycling conditions :

94°C	2-5 m	
94°C	30 sec	30-35 cycles
50-60°C	30 sec	
72°C	1-2 Kb/min	
72°C	5-10 m	

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