P Page Taq DNA Polymerase for PAGE

Cat. No. ABTGMBP02

Concentration 5 units/μl

Storage: at -20°C for two years

Description

P Page Taq DNA Polymerase for PAGE is purified from E. coli expressing a cloned DNA polymerase from Thermus aquaticus. The enzyme consists of a single polypeptide with a molecular weight of approximately 94 kDa. P Page Taq DNA Polymerase for PAGE has 5′-3′ DNA polymerase activity and 5′-3′ exonuclease activity. lt lacks 3′-5′ exonuclease activity. This enzyme is supplied with unique buffer, and its PCR product is suitable for SDS-PAGE and agarose gel electrophoresis.

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 AllBio Vseries Vectors.
- Amplification of genomic DNA fragment up to 3 kb.

Application

PCR amplification for short fragments

Unit Definition

One unit (U) is defined as the amount of enzyme required to catalyze the incorporation of 10 nmol of dNTP into an acid-insoluble material in 30 minutes at 74℃, withactivated salmon sperm DNA used as template.

Quality Control

P Page Taq DNA Polymerase for PAGE has passed the following quality control assays: functional absence of double- and single-stranded endonuclease activity; >99% homogeneous measured by SDS-PAGE. P Page Taq DNA Polymerase for PAGE has been assayed for amplification efficiency from as little as 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, stabilizers

10×P Page Taq Buffer for PAGE (with Mg^{2+})

200 mM Tris-HCl (pH 8.3), 200 mM KCl, 100 mM $(NH_4)_2SO_4$, 20 mM $MgSO_4$, others

Kit Contents

Component	100 rxns	400 rxns
P Page Taq DNA Polymerase for PAGE	250 U×1	250 U×4
10×P Page Taq Buffer for PAGE	600 μl×1	600 μl×4

P Page Taq DNA Polymerase for PAGE

Reaction Components

Component	Volume	Final Concentration
Template	Variable	as required
Forward Primer (10 μM)	1 μl	0.2 μM
Reverse Primer (10 μM)	1 μl	0.2 μM
10×P Page Taq Buffer for PAGE	5 μl	1X
2.5 mM dNTPs	4 μl	0.2 mM
P Page Taq DNA Polymerase for PAGE	0.5-1 μl	2.5-5 units
ddH_2O	Variable	-
Total volume	50 μl	-

Thermal cycling conditions

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

Notes

- A final concentration of 2 mM $MgSO_4$ is sufficient for most targets amplification. For some targets, more Mg^{2+} may be required.
- For optinal results, we recommend to use the 100 mM $MgSO_4$ stock to prepare a titration from 2 mM to 4 mM (final concentration) in 0.25 mM increments.
- 0.5 μl (2.5 units) enzyme is enough for per 50 μl reaction. For better amplification, up to 1 μl (5 units) enzyme can be used.