EasyPfu DNA Polymerase

Cat. No. AP211
Concentration 2.5 units/μl
Storage -20°C for two years

Description

EasyPfu DNA Polymerase is an engineered version of *pfu* DNA Polymerase with enhanced yield and higher fidelity. *EasyPfu* DNAPolymerase possesses a proofreading 3'-5' exonuclease activity.

Highlights

- *EasyPfu* DNA Polymerase offers 18-fold fidelity as compared to *EasyTaq*® DNA Polymerase.
- Extension rate is about 0.5 kb/min.
- PCR products can be directly cloned into *pEASY*®-Blunt vectors.
- Amplification of genomic DNA fragment up to 6 kb.
- Amplification of plasmid DNA fragment up to 10 kb.

Applications

- High fidelity PCR
- Blunt-end cloning
- Site-directed mutagenesis

Unit Definition

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

Quality Control

EasyPfu DNA Polymerase has passed the following quality control assays: functional absence of double- and single-strand endonuclease activity, >99% homogeneous measured by SDS-PAGE. Each batch of *EasyPfu* DNA Polymerase has been assayed for amplification efficiency to amplify p53 gene from 10 ng of human genomic DNA.

Storage Buffer

50 mM Tris-HCl (pH 8.0), 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 50% (v/v) glycerol stabilizers

10×*EasyPfu* Buffer with 20 mM $MgSO_4$

200 mM Tris-HCl (pH 8.8), 100 mM $(NH_4)_2SO_4$, 100 mM KCl, 20 mM $MgSO_4$, others

Kit Contents

Component	AP211-01/11	AP211-02/12	AP211-03/13
EasyPfu DNA Polymerase	250 U×1	500 U×1	500 U×6
10×*EasyPfu* Buffer	1.2 ml ×1	1.2 ml ×1	1.2 ml ×6
2.5 mM dNTPs	- / 500 μl ×1	- / 1 ml ×1	- / 1 ml ×6
6×DNA Loading Buffer	500 μl×1	1 ml ×1	1 ml ×2
50 mM $MgSO_4$	200 μl×1	400 μl×1	1 ml ×1

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×*EasyPfu* Buffer	4 μl	1×
2.5 mM dNTPs	5 μl	0.25 mM
EasyPfu DNA Polymerase	1 μl	2.5 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	0.5 kb/min	
72°C	5-10 min	

Notes

- For GC-rich templates, the recommended denaturation temperature is 98°C.
- To ensure high fidelity,we recommended using high quality dNTPs. dNTPs containing dUTP cannot be used.
- Since it is not hot-start, we recommended to add enzyme last during PCR.

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