EasyTaq® DNA Polymerase

Cat. No. AP111
Concentration 5 units/μl
Storage: at -20°C for two years

Description

EasyTaq® DNA Polymerase is isolated from *E. coli* expressing a cloned DNA polymerase gene from Thermus aquaticus. The enzyme consists of a single polypeptide with a molecular weight of approximately 94 kDa. *EasyTaq*® DNA Polymerase has 5'→3' DNA polymerase and exonuclease activity and is suitable for routine polymerase chain reaction (PCR) applications. Please note, PCR products using this enzyme are not suitable for polyacrylamide gel electrophoresis (PAGE).

Highlights

- Extension rate is about 1-2 kb/min.
- Amplification of genomic DNA fragment up to 4 kb.

Application

- Routine PCR
- Colony PCR

Unit Definition

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

Quality Control

- Functional absence of double- and single-strand endonuclease activity; >99% homogeneous measured by SDS-PAGE.
- Each batch of *EasyTaq*® DNA Polymerase has been assayed for amplification efficiency of the p53 gene from 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×*EasyTaq*® Buffer (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	AP111-01/11	AP111-02/12	AP111-03/13	AP111-04
EasyTaq® DNA Polymerase	500 U×1	500 U×6	2500 U×4	5000 U×10
10×*EasyTaq*® Buffer	1.2 ml×1	1.2 ml×6	1.2 ml×20	1.2 ml×100
2.5 mM dNTPs	- / 800 μl×1	- / 800 μl ×6	- / 800 μl×20	-
6×DNA Loading Buffer	1 ml×1	1 ml×2	1 ml×4	1 ml×20

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×*EasyTaq*® Buffer	5 μl	1×
2.5 mM dNTPs	4 μl	0.2 mM
EasyTaq® DNA Polymerase	0.5-1 μl	2.5-5 units
Nuclease-free Water	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.
- If there is a little precipitation after the 10×*EasyTaq*® Buffer is thawed, please dissolve it in a 37℃ water bath and mix it for use.

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