TransTaq®-T DNA Polymerase

Cat. No. AP122
Concentration 5 units/μl
Storage at -20°C for two years

Description

TransTaq®-T DNA Polymerase is a mixture of *EasyTaq*® DNA Polymerase with a proofreading 3'-5' exonuclease. The fidelity is equal to *EasyPfu* DNA Polymerase. The yield is equal to that from *EasyTaq*® DNA Polymerase. It is more suitable for high fidelity TA cloning.

Highlights

- *TransTaq*®-T DNA Polymerase offers 18-fold fidelity as compared to *EasyTaq*® DNA Polymerase.
- 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 *pEASY*®-T vectors.
- Amplification of genomic DNA fragment up to 8 kb.

Applications

- Complex templates
- TA cloning

Unit Definition

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

Quality Control

TransTaq®-T DNA Polymerase has passed t he following quality control assays:functional absence of double- and single-strand endonuclease activity; >99% homogeneous measured by SDS-PAGE. Each batch of *TransTaq*®-T DNA Polymerase has been assayed for amplification efficiency to amplify 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×*TransTaq*®-T Buffer

200 mM Tris-HCl (pH 9.0), 100 mM KCl, 100 mM $(NH_4)_2SO_4$, 20 mM $MgSO_4$, others

Kit contents

Component	AP122-01/11	AP122-02/12	AP122-03/13
TransTaq®-T DNA Polymerase	250 U×1	500 U×1	500 U×6
10×*TransTaq*®-T Buffer	1.2 ml ×1	1.2 ml ×1	1.2 ml ×6
2.5 mM dNTPs	- / 400 μl ×1	- / 800 μl ×1	- / 800 μl ×6
6×DNA Loading Buffer	500 μl×1	1 ml ×1	1 ml ×2

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×*TransTaq*®-T Buffer	5 μl	1×
2.5 mM dNTPs	4 μl	0.2 mM
TransTaq®-T 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.

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