TransStart® *FastPfu* Fly DNA Polymerase

Please read the datasheet carefully prior to use

Cat. No. AP231

Concentration: 2.5 units/μl

Storage: at -20°C for two years

Description

TransStart® *FastPfu* Fly DNA Polymerase is a hot start, high-fidelity and high processivity DNA Polymerase used for fast PCR. Compared with *TransStart*® *FastPfu* DNA Polymerase, *TransStart*® *FastPfu* Fly DNA Polymerase has higher extension rate (6kb/min vs 4kb/min), higher fidelity, and higher amplification efficiency.

• Offers 108-fold fidelity as compared to *EasyTaq*® DNA Polymerase.
•PCR products can be directly cloned into *pEASY*®-Blunt vectors.
•Amplification of genomic DNA fragment up to 15 kb.
•Amplification of plasmid DNA fragment up to 20 kb.

Features

• Hot start, high specificity.
• High amplification efficiency.
• Fast and high fidelity.
• High sensitivity.
• High production.

Applications

• Amplifies complex and high GC/ AT templates.
• High fidelity and fast PCR, blunt end cloning, site-directed mutagenesis.
• Amplifies long fragment.

Kit Contents

Component	AP231-01/11	AP231-02/12	AP231-03/13
TransStart® *FastPfu* Fly DNA Polymerase	250 U×1	500 U×1	500 U×6
5×*TransStart*® *FastPfu* Fly Buffer	1.2 ml ×1	1.2 ml ×2	1.2 ml ×12
50 mM $MgSO_4$	200 μl×1	400 μl×1	1 ml×1
6×DNA Loading Buffer	500 μl×1	1 ml×1	1 ml×2
2.5 mM dNTPs	- /500 μl×1	- / 1 ml×1	- / 1 ml×6
Complimentary Component	200 μl×1	400 μl×1	1 ml×1
PCR Stimulant			

Reaction Components(50 µl reaction volumes)

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
5×*TransStart® FastPfu* Fly Buffer	10 µl	1×
2.5 mM dNTPs	4 µl	0.2 mM
TransStart® FastPfu Fly DNA Polymerase	1 µl	2.5 units
Nuclease-free Water	Variable	-
Total volume	50 µl	-

Optimized parameters (50 µl reaction volumes)

Template	Input
Genomic DNA	10-500 ng
Plasmid DNA	1-30 ng
cDNA	1-2 µl cDNA from RT reaction (50-500 ng RNA for RT reaction)

PCR

Number of Cycles	Temperature	Time
1 cycle	95°C	2 min
30-35 cycles	95°C	20 sec
	Tm-5°C	20 sec
	72°C	6 kb/min
1 cycle	72°C	5 min

PCR Stimulant

PCR Stimulant is used to optimize the amplification of complex templates or high GC/ AT templates. The amplification of the Pfu series of enzymes is enhanced significantly. The concentration of the storage solution is 5×, and the concentration of the working solution can be adjusted between 0.5×-2.5×

Notes

- For GC-rich templates, the recommended denaturation temperature is 98°C
- To ensure high fidelity, we recommend using high quality dNTPs. dNTPs containing dUTP cannot be used.
- It is recommended to add *TransStart® FastPfu* Fly DNA Polymerase to the reaction system in the last step.
- If 5×*TransStart® FastPfu* Fly Buffer has a small amount of precipitation after thawing, please heat it in a 37°C water bath and mix it for use.

FOR RESEARCH USE ONLY