Product Manual

Product Name	Klen Taq DNA Polymerase
Source	Recombinant expression in Escherichia coli
Catalog Number	CSB-DEM045
Physical Form	Liquid
Enzyme Activity	5U/μL
Storage Conditions	-20 ±5°C
Storage Buffer	10 mM Tris-HCl, 100 mM KCl, 1 mM DTT, 0.1 mM EDTA, 0.5% Tween 20, 0.5% NP-40, 50% Glycerol
Activity Definition	Within 30 min at 72°C, 1 unit (U) of the enzyme is required to incorporate 10 nmol of deoxynucleotide into acid-insoluble material.
Quality Control	No residual exonuclease and endonuclease activity
Shelf Life	24 months

Product Description

Klen Taq DNA Polymerase is a truncated form of Taq DNA polymerase with additional mutations that allow it to tolerate various inhibitors. Modified by antibody, it possesses 5'-3' polymerase activity and 5'-3' exonuclease activity. With an optimized buffer system, it exhibits strong tolerance to impurities.

Product components

Component No.	Component Name	Specifications		
1	5×Klen buffer	0.6mL	3mL	6mL
2	Klen Taq DNA Polymerase	100 U	500U	1000 U

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Operating instructions

Recommended Reaction System

Composition	Addition amount
ddH2O	Up to 30 μL
5×Klen buffer	6 μL
10 mM dNTPs	0.6 μL
Upstream primer (10 μM)	0.6μL
Downstream primer (10 μM)	0.6 μL
Klen Taq DNA Polymerase	0.3 μL
Template DNA	X μL

Note：

[a]Primer Concentration:

Generally, a primer final concentration of 0.2 μM in the reaction system yields good results. If the reaction performance is poor, adjust the primer concentration within the range of 0.1 μM to 1.0 μM.

[b]Template Concentration:

The optimal concentration range for whole blood templates is 0.5%-20%. A recommended amount of 5% is suggested as an initial trial condition, which is adding 1.5μL of whole blood as a template in a 30μL reaction system. Be cautious to avoid drawing blood clots.

[c] Polymerase Concentration:

It is recommended to use 0.05 U/μL. The enzyme amount can be adjusted between 0.25 and 1 μL. Generally, increasing the enzyme amount can enhance amplification yield, but it may reduce specificity.

[d] Quantitative PCR with fluorescence:

When using this product for fluorescent quantitative PCR, add 0.3 μL of 10 μM TaqMan Probe in the recommended system mentioned above.

Recommended PCR reaction procedure

Temperature	Time	Cycles
95°C	5 min	1
95°C	10 s	30-35
45-68°C	30 s	
72°C	1 kb/min	
72℃	5min	1

Note：

[e] Quantitative PCR Program with fluorescence (TaqMan Probe method):

95°C for 5 min; 95°C for 10s, 60°C for 30s＊, 40-45 cycles.

[f] Annealing temperature and time:

The annealing temperature needs to be adjusted according to the primer's Tm value,

and the annealing time can be adjusted within 10-30 sec.

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