

KlenTaq DNA Polymerase

Catalog Number: NP041011220 – 500U

Description:

This product is suitable for mutation analysis with mutation-specific oligonucleotides. It has a very low background ability to extend a mismatched 3'-oligonucleotide end making it suitable for mutation analysis with mutation-specific oligonucleotides. Amplicons are T/A cloning compatible.

KlenTaq DNA Polymerase has no the N-terminal portion of the gene, encoding *Thermus aquaticus* (Taq) DNA polymerase, leaving a highly active and even more thermal stable DNA polymerase activity.

KlenTaq has a wide range of optimal MgCl₂ concentration. The optimal range of Mg²⁺ concentration for KlenTaq is broader than for the majority of thermostable polymerases. The mutation rate during polymerization is two-fold lower for KlenTaq in comparison with full-length Taq DNA polymerase.

Contents:

Components	500U
KlenTaq DNA poly. 5 U/μl	500U
MgCl ₂ Solution 25 mM	1 mL
10X Buffer MgCl ₂ free	1 mL

General Reaction Protocol:

1. Thaw 10X reaction buffer, dNTP mixture.
2. Mix the master mix thoroughly and dispense appropriate volumes into PCR tubes or plates.
3. Add templates DNA to the individual PCR tubes or wells containing the master mix.

Component	Volume	Final conc.
10X Reaction Buffer	2 μL	1X
MgCl ₂ Solution 25 mM	2.4 μL	3 mM
40 mM dNTPs Mix (10 mM each)	0.5 μL	0.25 mM
Forward Primer (10 pmol/ μL)	1 μL	0.5 pmoles/μL
Reverse Primer (10 pmol/ μL)	1 μL	0.5 pmoles/μL
Template DNA	Variable	10 fg to 1 μg
KlenTaq DNA poly. (5 units/μl)	0.25 μL	
PCR grade water	Up to 20μL final volume	-
Total Volume	20 μL	

4. Program the PCR machine according to the program outlined.

Cycle	Time	Temp °C
1	4 min	95
	30 sec	94
30 - 35	30 sec	57
	30-60 sec	72
1	5 min	72

Notes:

Extension temperature is between 68 and 72 °C. We highly recommend 68 °C for more efficiency of Klen Taq DNA polymerase.

* For PCR products longer than 3~4 Kb, use an extension time of approximately 1 min. per Kb DNA.

Agarose Gel Electrophoresis:

Run the total 5-7 μL of PCR products alongside 3 μL DNA marker on a 2% agarose gel containing Green Viewer Dye DNA safe stain.