Taq DNA Polymerase (5U/µl)

Description:

Taq DNA Polymerase is a high quality purified recombinant enzyme and catalyses 5'→3' synthesis of DNA. The enzyme has no detectable 3'→5' proofreading exonuclease activity. It is provided with 10X reaction buffer that will enable or improve sub-optimal PCR caused by templates that have a high degree of secondary structure or that are GC-rich.

Contents:

Components	500U
Taq DNA polymerase 5 U/µl	500U
MgCl2 Solution 25 mM	1 mL
10X Buffer (MgCl2 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
MgCl2 Solution 25 mM	1.2 µL	1.5 mM
40 mM dNTPs Mix (10 mM each)	0.4 µL	0.2 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
Taq DNA polymerase 5 U/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 - 35	30 sec	94
	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 Nepenthe Taq DNA polymerase.

* Use an extension time of approximately 1 min. per Kb DNA for PCR products longer than 3~4 Kb.

* A DNA fragment which is amplified by Taq DNA polymerase has A-overhang, and it enables you to do cloning by using T-vector.

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.