Taq DNA polymerase

Description:

Taq DNA Polymerase is a high quality purified recombinant enzyme and catalyze 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.

Buffers and Reagents:

Storage Buffer: 20 mM Tris-HCl (pH 8.0), 100 mM KCl, 0.5 mM EDTA, 0.1 mM DTT, 0.5% Tween 20,0.5 % Nonidet P-40, 50% Glycerol

10X Reaction Buffer: Contains Tris-HCl (pH 9.0), PCR enhancers, (NH4)2SO4

Contents:

Component	C101001	C101002
Taq DNA poly. 5 U/µl	**250 U**	**500 U**
$MgCl_2$ Solution 25 mM	**0.5 ml**	**1 ml**
10X Buffer $MgCl_2$ free	**0.5 ml**	**1 ml**

Kit storage: This kit should be stored at -20°C. Unnecessary repeated freeze/thawing should be avoided. Under these conditions reagents are stable for one year from the date of production.

General Reaction Protocol:

Please be sure to follow below

1. Thaw 10X reaction buffer , dNTP mixture.
2. Mix the master mix thoroughly and dispense appropriate volumes into PCR tubes or plates.

Master Mix Components	Vol (µL)
10X Reaction Buffer	2 µL
MgCl2 Solution 25mM	1.2 µL
40 mM dNTPs Mix (10 mM each)	0.5 µL
Upstream Primer (10 pmol/µl)	1 µL
Downstream Primer(10 pmol/µl)	1 µL
***Taq* (5 units/µL)**	0.25 µL
Template DNA	Variable
Sterilized D.W.	Variable
Total Volume	20 µL

3. Add templates DNA to the individual PCR tubes or wells containing the master mix.
5. Program the PCR machine according to the program outlined.

6. Place the PCR tubes or PCR plates in the terminal cycler and start the cycling program.

7. Separate the PCR products by agarose gel electrophoresis and visualize with EtBr or any other means.

Cycle	Time	Temp °C
1	5 Min	94
25 ~35	30 Sec	94
	30 Sec	50~60
	30 ~60 Sec	72#
1	5 Min	72

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

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

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