GeNeTBIO GLOBAL GENE NETWORK

ExPrime Taq DNA Polymerase

Product Name	Cat. No.	Size
ExPrime Taq DNA Polymerase	G-4000	250 Units X 1
	G-4001	250 Units X 2
	G-4002	250 Units X 4

Package information

G-4000	1. ExPrime Taq DNA Polymerase (250 Units, **5 U/㎕**, 50㎕ X 1) 2. 10X Reaction Buffer (with 20 mM $MgCl_2$, 1.0 ml X 1) 3. 10 mM dNTPs Mixture (2.5 mM each of dATP, dCTP, dGTP and dTTP, 0.5 ml X 1)

Description

ExPrime Taq DNA Polymerase는 5'→3' exonuclease & 3'→5' exonuclease 기능을 모두 가지고 있습니다. 따라서 일반 Taq DNA Polymerase에 비해 error-rate가 약 2~3배 정도 감소되며 (High Fidelity), 또한 일반 Taq DNA Polymerase를 이용할 경우 DNA amplification이 힘든 PCR products에 대해서도 ExPrime Taq DNA Polymerase를 이용할 경우 PCR products를 좀 더 용이하게 얻을 수 있습니다.
ExPrime Taq DNA Polymerase는 일반 Taq DNA Polymerase에 비해 검출 능력이 향상된 제품으로 확인, 검출 PCR에 사용할 수 있습니다.

Buffers and Reagent

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 and 50% Glycerol

10X Reaction Buffer

Contains Tris-HCl (pH 9.0), PCR enhancers, $(NH_4)_2SO_4$ and 20 mM $MgCl_2$

10 mM dNTPs Mixture

2.5 mM each of dATP, dCTP, dGTP and dTTP

Protocol

PCR 결과는 Taq DNA Polymerase의 사용량, reaction temperatures & times, primer specificity, 그리고 template DNA의 purity와 투입량 등에 의해서 달라질 수 있으며, 아래에 제시된 조건은 기본적으로 사용될 수 있는 방법입니다.

The following 20㎕ reaction volume can be used for PCR.

1. Thaw the 10X Reaction buffer and 10 mM dNTPs Mixture.
2. Prepare a mastermix.

Components	Volume	Final conc.
Sterilized D.W.	add up to 20㎕	-
10X Reaction buffer	2.0㎕	1X
10 mM dNTPs Mixture	0.5~2.0㎕	0.25~1.0 mM
Upstream Primer (10 pmoles/㎕)	0.2~2.0㎕	0.1~1.0 pmoles
Downstream Primer (10 pmoles/㎕)	0.2~2.0㎕	0.1~1.0 pmoles
ExPrime Taq DNA Pol. (5 Units/㎕)	0.1~0.2㎕	0.5~1.0 unit
Template DNA	Variable	10 fg~1μg

*** Amount of template DNA**

- Bacteriophage λ, cosmid, plasmid DNA: 10 fg~300 ng
- Genomic DNA: 100 ng~1μg

3. Mix the mastermix and dispense appropriate volume into PCR tubes. Centrifuge the PCR tubes in a microcentrifuge for 10 seconds.
4. Perform PCR using your standard parameters (3-step cycling).

Step	Temp. & Tme		Cycles
	Temp.	Time	
Initial denaturation	95℃	3~5 min.	1
Denaturation	95℃	30 sec.	25~35
Annealing	x℃	30 sec.	
Extension	72℃	30~60 sec.	
Final Extension	72℃	5 min	1

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

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

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

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