GENETBIO GLOBAL GENE NETWORK

HS Prime Taq DNA Polymerase

Product Name	Cat. No.	Size
HS Prime Taq DNA Polymerase	G-7000	250 Units X 1
	G-7001	250 Units X 2
	G-7002	250 Units X 4

Package Information

G-7000	1. HS Prime Taq DNA Polymerase (250 Units, **2.5 U/㎕**, 100㎕ X 1) 2. 10X Reaction buffer (with 20 mM MgCl2, 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

HS Prime Taq DNA Polymerase is designed for hot-start PCR, a technique that enhances the specificity, sensitivity and yield of DNA amplification.
In addition, the enzyme provides the convenience of reaction set-up at room temperature. The enzyme is inactived at room temperature, avoiding extension of non-specifically annealed primers or primer dimers and providing higher specificity of DNA amplification. The functional activity of the enzyme is restored during 10 minute incubation at 94℃. The activated enzyme maintains the same functionality as Taq DNA Polymerase.: it catalyzes 5'→3' synthesis of DNA, has no detectable 3'→5' proofreading exonuclease activity.

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

Applications

Hot-start PCR, RT-PCR, Amplification of low copy or high range size DNA targets, Real-time PCR, Multiplex PCR, T-vector cloning.

◈ Research Use Only

◈ Store at -20℃

Protocol

Optimal reaction conditions, such as reaction temperature & times, and amount of template DNA, may vary and must be individually determined.

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.

Component	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
HS Prime Taq DNA Pol. (2.5 units/㎕)	0.2~0.4㎕	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 volumes 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. & Time		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 3~4Kb, 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 HS Prime Taq DNA Polymerase has A-overhang, and it enables you to do cloning by using T-vector.