SuPrime HF DNA Polymerase
(High-Fidelity DNA Polymerase)

Product Name	Cat. No.	Size
SuPrime HF DNA Polymerase 〈with 10 mM dNTPs Mixture〉	HF-1000	250 Units X 1
	HF-1001	250 Units X 2
	HF-1002	250 Units X 4

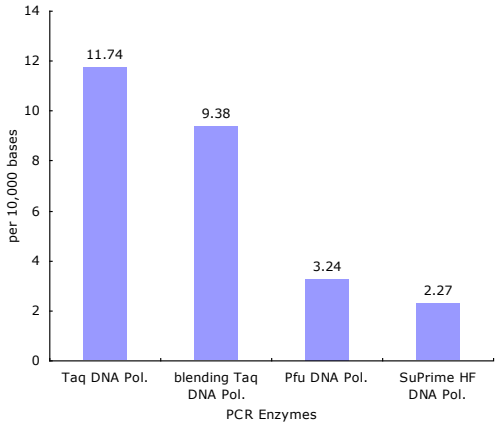
Package information

HF-1000	1. SuPrime HF DNA Polymerase (250 Units X 1, 2.5 U/㎕, 100㎕) 2. 5X Reaction Buffer (with $MgCl_2$, 1.0 ml X 2) 3. 10 mM dNTPs Mixture (each 2.5 mM, 1.0 ml X 1)

Description

SuPrime HF DNA Polymerase is pyrococcus-like proofreading DNA Polymerase and provides the highest fidelity and high speed DNA synthesis.

〈Error Rate of SuPrime HF DNA Polymerase〉



▶Genomic DNA were amplified with SuPrime HF DNA Polymerase and other Polymerase. 1 kb PCR products were cloned into vector. Each 100 clones were selected and subjected to sequence analysis to determine the error rate.

Usage Information

▣ SuPrime HF DNA Pol. produce **blunt end DNA fragments**.
▣ The extension time for long PCR is **20~30 sec/kb**.
▣ The denaturation and extension temp. is **98℃** and **68℃**.
▣ The concentration of reaction buffer is **5X**.
▣ **If the smearing or non-specific products are appeared, decrease the enzyme concentration or the extension time.**

◉ Research Use Only
◉ Store at -20℃

Protocol

1. Prepare the following components to a PCR tube.

Components	Volume	
DW	add up to 20㎕	add up to 50㎕
5X Reaction buffer	4㎕	10㎕
10 mM dNTPs Mixture	2㎕	5㎕
Forward Primer (10 pmoles/㎕)	0.5~1.0㎕	1.0~2.5㎕
Reverse Primer (10 pmoles/㎕)	0.5~1.0㎕	1.0~2.5㎕
Template DNA*	X㎕	X㎕
SuPrime HF DNA Polymerase (2.5 U/㎕)	0.1~0.4㎕	0.25~1.0㎕

* Amount of template DNA
- Plasmid, Lambda DNA, BAC DNA: 1 pg~5 ng
- Genomic DNA: 10 ng~250 ng

2. PCR cycling

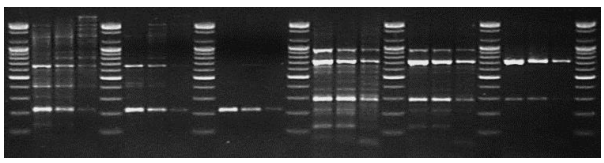
Step	2-step PCR		3-step PCR		Cycles
	Temp.	Time	Temp.	Time	
Initial denaturation	98℃	2 min	98℃	2 min	1
Denaturation	98℃	10 sec	98℃	10 sec	25~35
Annealing	-	-	X℃	20 sec	
Extension	68℃	20~30s/kb	68℃	20~30s/kb	
Final Extension	68℃	5 min	68℃	5 min	1

Performance of SuPrime HF DNA Polymerase

All reactions were performed using 3-step cycling profiles (20㎕ reaction, 30 cycles);
10 sec (98℃) Denaturation
20 sec (57℃) Annealing
20 sec (68℃) Extension

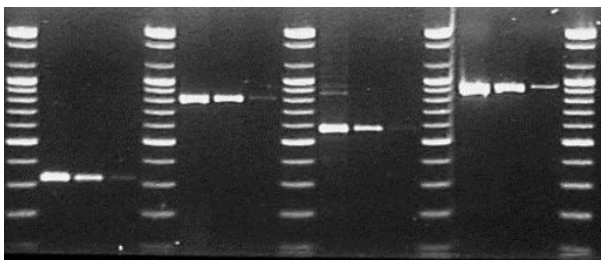
▣ Amplification of low unit with serial 10-times diluted genomic DNA

Human P53 gene (215 bp) Bacteria htrG gene (750 bp)
1.0 U 0.5 U 0.25 U 1.0 U 0.5 U 0.25 U



▣ High yield amplification of 1.0 unit with serial 10-times diluted genomic DNA

1 2 3 4



Lane 1: Human dystrophine gene (330 bp) Lane 2: Mouse Gai2W (805 bp)
Lane 3: Rice STS30 (600 bp) Lane 4: Soybean rbcL/atpB (950 bp)

GENETBIO Inc. Tel.: 1599-4003, 0502-523-3484 Fax.: 0502-523-3485 e-mail: genetbio@genetbio.co.kr homepage: www.genetbio.com