

SuPrime HF DNA Polymerase (High-Fidelity DNA Polymerase)

Cat. No.	Size	Remark
HF-1000	250 units	with dNTPs mix., +Mg buffer

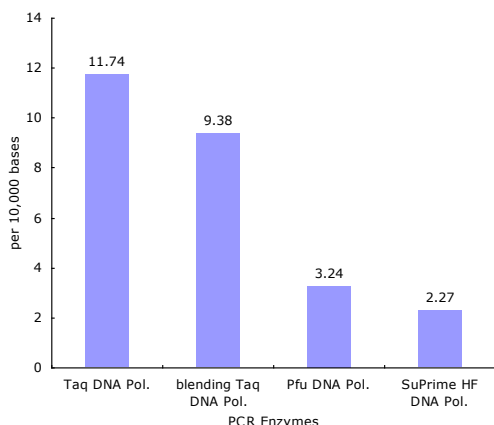
Package information

HF-1000	<ul style="list-style-type: none"> - SuPrime HF DNA Polymerase (2.5 units/μl): 100 μl - 5X Reaction Buffer (with MgCl₂): 1.0 ml X 2 - 10mM dNTPs Mixture (2.5mM of each dNTPs): 1.0 ml
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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°C** and **68°C**.
- 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°C**

Protocol

1. Prepare the following components to a PCR tube.

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

* Amount of template DNA

- Plasmid, Lambda DNA, BAC DNA: 1 pg~5 ng
- Genomic DNA: 10 ng~250 ng

2. PCR cycling

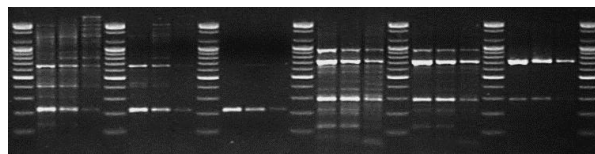
Step	2-step PCR		3-step PCR		Cycles
	Temp.	Time	Temp.	Time	
Initial denaturation	98°C	2 min	98°C	2 min	1
Denaturation	98°C	10 sec	98°C	10 sec	25~35
Annealing	-	-	X°C	20 sec	
Extension	68°C	10~30s/kb	68°C	10~30s/kb	
Final Extension	68°C	5 min	68°C	5 min	1

Performance of SuPrime HF DNA Polymerase

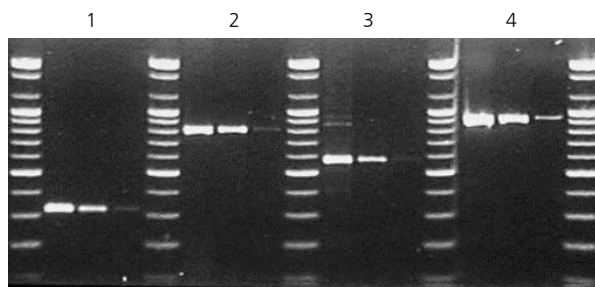
All reactions were performed using 3-step cycling profiles (20 μ l reaction, 30 cycles);

- 10 sec (98°C) Denaturation
- 20 sec (57°C) Annealing
- 20 sec (68°C) 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



Lane 1: Human dystrophine gene (330 bp) Lane 2: Mouse Gai2W (805 bp)
Lane 3: Rice ST530 (600 bp) Lane 4: Soybean rbcl/atpB (950 bp)