HiSense™ Taq PCR Polymerase

Cat. No. DFT-500, DFT-1000

1. Product Information

Introduction

HiSense™ Taq PCR Polymerase is a heat-resistant Taq DNA polymerase obtained through a purification process developed by CellSafe. It is isolated from recombinant *Escherichia coli* strain containing the Taq DNA polymerase gene derived from *Thermus aquaticus.*

This enzyme contributes to the formation of double-stranded DNA by catalyzing the polymerization of nucleotides in the 5' to 3' direction. It lacks 3'→5' exonuclease (proofreading) activity and exhibits low 5'→3' exonuclease activity.

Application

- Allele specific PCR
- 16S and 23S rRNA gene amplification
- Detection of bacteria in samples (e.g. blood)
- DNA labeling reactions & TA-cloning
- Sequencing / cycle sequencing

2. Contents and Storage

Materials Provided

Label	DFT-500	DFT-1000
Taq DNA Polymerase (5 Unit/μl)	100 μl	200 μl
dNTPs Mixture 10 mM (2.5 mM each)	1 ml	2 ml
10X PCR Buffer with 25 mM $MgCl_2$	1.5 ml	3 ml

Storage

Store at -20°C

Check the label on the product for expiration date.

3. Test Protocol

Reaction mixture (for 20μl reaction)

Reaction components	Volume
Taq DNA polymerase	1 unit
10X PCR buffer	2 μl
dNTPs mixture	1.6 μl
Forward primers, (10pmol/μl)*	1 μl
Reverse primers, (10pmol/μl)*	1 μl
Template DNA**	2 μl
DNase free water	up to 20 μl
Total volume	20 μl

* A final primer concentration of 0.5 μM is optimal in most cases but may be individually optimized in a range of 0.2 μM to 1.0 μM.

** The optimal quantity varies depending on the number of target copies present in the template solution. Use no more than 100 ng.

PCR reaction condition

Steps & Cycles	Temp(°C)	Time	Cycles
Pre heat	95	5 min	1
Denature	95	30 sec	25~35
Anneal*	60	30 sec	
Extend**	72	1 min	
Final extension	72	5 min	1

* Optimal annealing temperature depends on the melting temperature of the primers.

** Generally, 1 min/kb and higher than 3 kb, set it to 1.5 to 2.0 min/kb.