Taq-HS DNA Polymerase

REF: EG15134S

Storage Condition

-20℃

Components

Component	Amount
Taq-HS DNA Polymerase(5 U/μl)	200 μl
10× Taq Reaction Buffer	5×1 ml

Description

Taq-HS DNA Polymerase is a chemically modified form of Taq DNA Polymerase，inhibiting polymerase activity at temperatures below 60℃ , but permanently releases the enzyme during normal cycling conditions, allowing reactions to be set up at room temperature.Therefore，it avoids nonspecific amplification and is especially suitable for Taqman.

Definition of Activity Unit

One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into acid-insoluble material in 30 minutes at 74℃ .

Quality Control Assays

Protein Purity

The enzyme is ≥95% pure as determined by SDS-PAGE analysis using Coomassie Blue staining.

Endonuclease Activity

A 20 μl reaction containing 200 ng of supercoiled plasmid and 5 U of Taq-HS DNA Polymerase incubated for 4 hours at 37℃ results in <10% conversion to the nicked or linearized form as determined by agarose gel electrophoresis.

Non-specific Nuclease Activity

A 20 μl reaction containing 15 ng of dsDNA fragments and 5 U of Taq-HS DNA Polymerase incubated for 16 hours at 37 ℃ results in no detectable degradation of the dsDNA fragments as determined by agarose gel electrophoresis.

Residual Host DNA

The product was tested by TaqMan qPCR with primers specific for the *E.coli* 16S rDNA , and the results show that the *E.coli* genome residues less than 1 copy.

Protocol

1. TaqMan qPCR reaction system

Reagent	Amount	Final Concentration
10× Taq Reaction Buffer	2 μl	1×
Taq-HS DNA Polymerase (5 U/μl)	0.15~0.2 μl	0.75~1 U/20 μl
dNTP (10 mM)	0.4 μl	0.2 mM
Forward Primer (4 μM)[a]	1 μl	0.2 μM
Reverse Primer (4 μM)[a]	1 μl	0.2 μM
Probe (5 μM)[b]	1 μl	0.25 μM
Template DNA[c]	x μl	10~200 ng/20 μl
ddH_2O	To 20 μl	

a. Recommended final concentration for primers is 0.2 μM. Adjustments can be made in the range of 0.1~1 μM. For general amplification of DNA fragments, 18~25 bp and with a GC content of 40%~60% primers are suitable. The optimal amplified target fragment is generally 80~200 bp, which should be designed to avoid hairpin structure, dimer and other complex structures, and should be as far as possible across the intron region.

b. The final concentration of the probe is recommended to be 0.25 μM. If the effect is not good, it can be adjusted at 0.1~1 μM.

c.The dosage of template should not exceed 10% of the total reaction system, and the recommended dosage of sample is 1~2 μl. Different types of DNA templates contain different number of target gene copies, and gradient dilution can be carried out if necessary to determine the optimal amount of DNA template addition.

2. TaqMan qPCR reaction condition

Step	Temperature	Time	
Initial Denaturation	95℃	5 min	
Denaturation	95℃	30 s	◄ 40 cycles
Annealing & Extension	60℃	60 s	

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