AbTaq DNA Polymerase

REF: EG20101S

Storage Condition

-20℃

Components

Component	Amount
AbTaq DNA Polymerase (5 U/μl)	100 μl
10× Taq Reaction Buffer	3×1 ml

Description

AbTaq DNA Polymerase contains a mixture of Taq polymerase and a monoclonal antibody that binds to Taq polymerase, thereby preventing DNA synthesis below 55℃ . During the initial DNA denaturation step the antibody is denatured, releasing the polymerase and allowing DNA synthesis to proceed. The use of a hot-start PCR enzyme prevents nonspecific amplification due to mispriming and/or the formation of primer dimers during PCR assembly.

Definition of Activity Unit

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

Quality Control Assays

Endonuclease Activity

A 20 μl reaction containing 200 ng of supercoiled plasmid and 5 U of AbTaq 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 AbTaq 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 10 copies.

Protocol

1.Taqman qPCR reaction system:

Reagent	Amount	Final Concentration
10× Taq Reaction Buffer	2 μl	1×
AbTaq 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 (10 μM)[a]	0.4 μl	0.2 μM
Reverse Primer (10 μM)[a]	0.4 μl	0.2 μM
Taqman 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.The recommended final concentration of primers is 0.2 μM, which can be adjusted at 0.1~1 μM when the effect is not good. Primer length should be set at 18~25 bp and GC content at 40%~60%. 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 Cycling Conditions:

Step	Temperature	Time	
Initial Denaturation	95℃	2 min	
Denaturation	95℃	10 s	40 Cycles
Annealing & Extension	60℃	30 s	

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