Product Manual

Product Name	HS-Taq DNA Polymerase
Source	E. coli recombinant expression
Catalog Number	CSB-DEM024
Physical Form	Liquid
Enzyme Activity	5U/μL
Storage Conditions	-20 ±5°C
Molecular Weight	94 kDa
Storage Buffer	10 mM Tris-HCl, 100 mM KCl, 1 mM DTT, 0.1 mM EDTA, 0.5% Tween 20, 0.5% NP-40, 50% Glycerol
Activity Definition	The amount of enzyme required to incorporate 10 nmol of deoxynucleotide into acid-insoluble material within 30 min at 75°C is defined as one unit of activity (U).
Quality Control	No detectable exonuclease and endonuclease activities
Shelf Life	24 months

Product Description

HS-Taq DNA Polymerase is an antibody-inhibited heat-stable polymerase. The polymerase activity is completely inhibited at room temperature, thereby preventing non-specific amplification and primer dimer formation during PCR reaction setup. With an optimized buffer system, it is suitable for both regular PCR and fluorescence quantitative PCR (SYBR Green dye method, probe method). The PCR product generated has a single dA nucleotide protruding at the 3' end, allowing direct use for TA cloning.

Product components

Component No.	Component Name	Specifications		
1	5×PCR buffer	1.2mL	6mL	12mL
2	Taq DNA Polymerase	500U	2500U	5000U

Operating instructions

Recommended Reaction System

Component	Volume
ddH_2O	Up to 30 μL
5× PCR Buffer	6 μL
10 mM dNTPs	0.6 μL
Upstream Primer (10 μM)	0.6 μL
Downstream Primer (10 μM)	0.6μL
Taq DNA Polymerase	0.5 μL
Template DNA	X μL

Note:

a. Primer concentration:

Generally, a final primer concentration of 0.2 μM in the reaction system yields good results. Adjust the primer concentration within the range of 0.1 μM to 1.0 μM if the reaction performance is poor.

b. Template concentration:

Animal and plant genomic DNA 0.1-1 μg, E. coli genomic DNA 10-100 ng, λDNA 0.1-10 ng, plasmid DNA 0.1-10 ng. If the template is undiluted cDNA, the volume used should not exceed 1/10 of the total qPCR reaction volume.

c. Polymerase concentration:

The enzyme amount can be adjusted between 0.25 - 1 μL. Generally, increasing the enzyme amount can improve amplification yield but may reduce specificity.

d. Fluorescence quantitative PCR:

When using this product for fluorescence quantitative PCR, in the recommended system mentioned above, add a final concentration of 1×SYBR Green I (dye method) or 0.3 μL 10 μM TaqMan Probe (probe method).

Recommended PCR Reaction Program

Temperature	Time	Cycles
95°C	3 min	1

95°C	30 s	
45-68°C	30 s	30-35
72°C	1 kb/min	
72℃	5min	1

Note:

e. Fluorescence quantitative PCR program (dye method):

(dye method) 95°C 2 min; 95°C 10 s, 56°C 30 s＊, 40 cycles; Melt Curve Stage; (probe method) 95°C 1 min; 95°C 10 s, 56°C 30 s＊, 40-45 cycles.

f. Annealing temperature and time:

Annealing temperature and time: Annealing temperature should be adjusted based on the primer's Tm value, generally set to 3-5°C below the primer Tm value. Recommended annealing time is 20 sec, adjustable within 10-30 sec