Instructions for Taq DNA Polymerase

Item number: PC1100

Specification: 500U/1000U/5000U

Concentration: 5U/μL

Storage: -20℃ storage, valid for at least 1 year.

Product description:

Taq DNA Polymerase is isolated and purified from Escherichia coli cloned with Thermus aquaticus DNA Polymerase gene by induction expression. Its molecular weight is 94 KD. The enzyme has 5 '-3' DNA polymerase activity and 5 '-3' exonuclease activity, but no 3 '-5' exonuclease activity. Taq DNA Polymerase has A elongation rate of 1-2 kb/ min in PCR reaction, and the product has A 3 'terminal band A, which can be directly used for T/A vector cloning. Taq DNA polymerase is not contaminated by exogenous nuclease and bacterial genomic DNA, and has good stability and strong specificity.

Activity definition:

1 unit (U) Taq DNA Polymerase activity is defined as the amount of enzyme required to incorporate 10 nmol of deoxynucleotides into an acid-insoluble substance using activated salmon sperm DNA as a template at 74℃ for 30 minutes.

Quality control:

The purity of Taq DNA Polymerase was more than 99% according to SDS-PAGE. No exogenous nuclease activity was detected. No host residual DNA was detected by PCR. It can effectively amplify single copy genes in human genome. Stored at room temperature for a week, no significant activity changes.

Enzyme storage buffer:

20mM Tris-HCl (pH 8.0); 0.1mM EDTA; 1 mM DTT; 100 mM KCl ; 50% glycerol; stabilizer

Scope of application (for reference only):

For less than 6kb of DNA fragments with low fidelity requirements of PCR amplification, DNA labeling, primer extension, sequence determination, flat end plus A, etc., the product can be directly used for T/A vector cloning.

Recommended PCR conditions:

PCR system (50 μL reaction system as an example)

Template	< 0.5mug
Upstream primer (10μM)	1muL
Downstream primer (10μM)	1muL
10 x Buffer (including Mg^{2+})	5muL
dNTP (2.5mM each)	4muL
Taq DNA Polymerase	0.5-1muL
ddH_2O	up to 50μL

What to watch for:

1. When adding samples for PCR reaction system, Taq DNA Ploymerase is added in the last step, and the whole process should be operated on ice.
2. When taking Taq DNA Ploymerase for PCR reaction, use autoclave treated suction heads.
3. 10×Taq buffers are divided into 15mM Mg^{2+} and no Mg^{2+} buffers, with no Mg^{2+} Buffer and an additional 25mM $MgCl_2$. If not specified, a Buffer containing 15mM Mg^{2+} is usually provided.

Related products:

PC11202	*×Taq PCR MasterMix (with dye)*
PC1300	*Pfu DNA Polymerase*
PC2200	*dNTPs Mix(10mM each)*
D1020	*10 x DNA loading buffer*
T1060	*50 x TAE buffer*
G8142	*GoldView Type II Nucleic Acid Stain (5000×)*