Hot Start Taq DNA Polymerase instructions

Item number: PC1110

Specification: 500U/1000U/2500U

Concentration: 5U/μL

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

The Polymerase is a heat-initiated Taq DNA Polymerase modified with anti-TAQ monoclonal antibody. The anti-TAQ monoclonal antibody binds to Taq enzyme before high temperature heating to inhibit the activity of the polymerase, thus inhibiting the non-specific amplification caused by non-specific annealing of primer or primer dimer under low temperature conditions. The anti-TAQ monoclonal antibody has been denatured in the initial DNA denaturing step of PCR reaction, so it can be used under conventional PCR reaction conditions without special inactivation treatment. In qPCR reaction, it can significantly improve the amplification efficiency of fluorescent PCR **(especially for low copy number template)**, improve the perfection of its amplification curve, and has good stability, high repeatability and strong specificity. When the enzyme was placed at room temperature for a week, the activity of the enzyme could remain above 95%.

Activity definition:

1 unit (U) Taq DNA Polymerase activity is defined as the amount of enzyme required to incorporate 10nmol 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; 100mM KCl; 50% glycerol; Stabilizer.

Scope of application:

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: the pre-denaturation temperature is 95℃, the time is 3min, and other reaction conditions are the same as that of ordinary Taq enzymes.

PCR system (50μl reaction system as an example)
Template <0.5μg
Upstream primer (10μM) 1μL
Downstream primer (10μM) 1μL
10 x Buffer (including Mg^{2+}) 5μl
dNTP (2.5mM each) 4μL
Heat start the Taq enzyme 0.5-1mul
ddH_2O up to 50μL

Related products:

PC1120	*2 x Taq PCR MasterMix (with dye)*
PC1300	*Pfu DNA Polymerase*
PC2200	*dNTPs Mix(10mM each)*
D1020	*10×DNA loading buffer*