V02

Hot start Taq DNA polymerase (Chemically Modified)

Cat No.: PC1111

Package: 500U/1000U

Activity: 5U/μL

Storage: Store at -20℃ for at least one year.

Product brief introduction

Taq DNA Polymerase is a chemically modified hot-start Taq DNA polymerase. The activity of TAQ enzyme is chemically blocked before high temperature heating, thus inhibiting the non-specific amplification caused by non-specific annealing of primer or primer dimer at low temperature. After incubation at a specific temperature (95℃), the polymerase can recover its normal activity after modification. Thus the activity can be controlled. In qPCR reaction, this product can significantly improve the amplification efficiency of fluorescent PCR (especially for low copy number templates), improve the perfection of its amplification curve, and has good stability, high repeatability and strong specificity. When the enzyme was left at room temperature for a week, the enzyme activity remained above 95%.

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 ° C for 30 minutes.

QC quality control mass control

The purity of Taq DNA Polymerase detected by SDS-PAGE was more than 99%. No exogenous nuclease activity was detected. No host residual DNA was detected by PCR. Can effectively amplify single copy genes in the human genome; Stored at room temperature for one week, no significant change in activity.

Enzyme storage buffer:

50% glycerin, 0.1mM /L EDTA, 1mM/L DTT, stabilizer.

Range of application

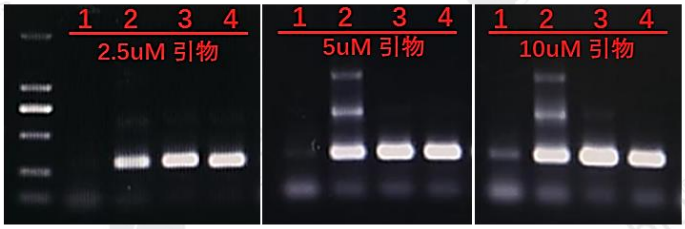
It can be used for PCR amplification, DNA labeling, primer extension, sequence determination, flat-end addition of A, etc. of DNA fragments less than 6kb with low fidelity. The product can be directly used for T/A vector cloning.

Recommended PCR conditions: the pre-denaturation temperature is 95 degrees, the time is 5-10 minutes, the denaturation temperature is recommended to be 95 degrees 15s-20s is the best, and other reaction conditions are the same as that of ordinary Taq enzymes.

PCR system (50μl reaction system as an example)

Template <0.5μg	
Forward primer（10μM）	1μl
Reverse primer（10μM）	1μl
10×Buffer（含 Mg^{2+}）	5μl
dNTP（各 2.5mM）	4μl
100mM Ammonium sulfate	2.5ul
Hot start Taq DNA polymerase	0.5-1μl
ddH_2O up to	50μl

Tel: 400-968-6088 https://www.solarbio.com E-mail: sales-china@solarbio.com
Address: No. 85, Liandong U Valley, Middle Zone, 101102, Tongzhou Dist, Beijing, China



注释：
1，未经修饰的普通Taq酶；2，某公司化学修饰Tag酶；
3，索莱宝化学修饰Taq酶；4，索莱宝化学修饰Taq酶室温放置5天后结果。

可以明显看出来，本公司研发的化学修饰热启动Taq酶稳定性很好，且封闭性较强，避免了二聚体及非特异性条带的扩增。

The primers Numb F and Numb R are specially designed to detect the thermal activation effect of the enzyme. Its detection principle:

The three bases at the 3 'end of the upstream primer are completely complementary to the three bases at the 3' end of the downstream primer. Before the PCR cycle begins, the upstream and downstream primers easily overlap during the process of heating up the PCR instrument. At this time, if the activity of DNA polymerase in the system is not blocked, it will carry out a elongation reaction at the 3 'end of the primer to amplify a shorter primer dimer. When the reaction temperature rose to 95℃ and entered the normal PCR amplification procedure, the primers could not normally amplify the target fragment due to the formation of dimers. However, if the activity of DNA polymerase in the system is completely blocked at low temperature, the elongation reaction cannot be carried out. When the PCR meter is heated to 95℃, the chemical groups used to block the polymerase activity are dissociated from the enzyme, so that the enzyme recovers the polymerase activity, thus carrying out a normal PCR reaction.

Related products

PC1100	*Taq DNA Polymerase*
PC1200	*Taq Plus DNA Polymerase*
PC1300	*Pfu DNA Polymerase*
PC1110	*Hot Start Taq DNA Polymerase*
PC2200	*dNTPs Mix(10mM each)*
D1020	*10×DNA sample buffer*

Note: For more information about this product, please refer to Solarbio website.