TIANGEN®

ET240408

Taq DNA Polymerase

Cat. no. 4992761/4992762/4992764/4992763/4992765

Storage: -30~-15°C for two years.

Concentration: 2.5 and 5 U/μl

Product size

Product Components	*Taq* DNA Polymerase	10×*Taq* Buffer	10×*Taq* Buffer (Mg^{2+} free)	$MgCl_2$ (25 mM)
4992761	250 U (2.5 U/μl)	1.8 ml	/	/
4992762	500 U (2.5 U/μl)	1.8 ml	/	/
4992764	500 U (5 U/μl)	1.8 ml	/	/
4992763	500 U (2.5 U/μl)	/	1.8 ml	1.8 ml
4992765	500 U (5 U/μl)	/	1.8 ml	1.8 ml

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Introduction

Taq DNA Polymerase is a recombinant 94 kDa DNA polymerase expressed in an *E.coli* strain that carries the cloned *Thermu aquaticus* DNA Polymerase gene. It possesses both 5'-3' polymerase and exonuclease activity, and has no detectable 3'-5' exonuclease activity. The extension rate of *Taq* DNA Polymerase is 1-2 kb/min in PCR. In addition, it has a 3' adenylation activity. Thus, the PCR products can be used directly in TA-cloning procedures.

Unit Definition

One unit of *Taq* DNA Polymerase is defined as the amount that incorporates 10 nmol of dNTPs into acid-insoluble material within 30 min at 74°C with activated salmon sperm DNA as the template/primer.

Quanlity Control

Purity up to standard by SDS-PAGE assay. No foreign nuclease activity is detected. Single copy gene in human genome could be amplified effectively. No significant activity change after storing at room temperature (15-30°C) for one week.

Storage Buffer

20 mM Tris-HCl (pH 8.0), 0.1 mM EDTA, 1 mM DTT, 100 mM KCl, Stabilizers, 50% Glycerol.

10×*Taq* Buffer

200 mM Tris-HCl (pH9.0), 200 mM KCl, 100 mM $(NH_4)_2SO_4$, 15 mM $MgCl_2$, other components.

- Two types of 10× *Taq* buffer can be chosen: Mg^{2+} plus and Mg^{2+} free.
- Mg^{2+} free buffer is supplied with separate 25 mM $MgCl_2$ Solution.
- Unless specifically requested, Mg^{2+} plus buffer will be supplied as regular component.

Applications

PCR amplification of DNA fragments, DNA labeling, primer extension, DNA sequencing and addition of extra adenines at the 3'-end of PCR products. PCR products with A-tailing at 3' are suitable for TA cloning.

Example

Note: The following example is only for reference, user must set up optimal reaction system according to different reaction conditions such as different templates or primers etc.

1. For 50 μl PCR reaction system: 1 kb fragment of human genomic DNA was amplified (If use different reaction system, please proportionally increase or decrease the amount of reaction components referring to this system).

Template	< 1 μg
Primer 1(10 μM)	1 μl
Primer 2(10 μM)	1 μl
10×*Taq* Buffer	5 μl
dNTP Mixture(2.5 mM)	4 μl
Taq (2.5 U/μl)	0.5-1 μl
ddH_2O	up to 50 μl

2. PCR cycle set-up:

94°C 3 min	
94°C 30 sec	} 30 cycles
55°C 30 sec	
72°C 1 min	
72°C 5 min	

3. Result detection: Load 5 μl PCR products to agrose gel for detection.