Taq DNA Polymerase M101 (5,000 U/mL)

Version: 16G19v1.1
Catalog: RK26000
Size: 250 U / 1,000 U
Components:

Taq DNA Polymerase M101 (5,000 U/mL)	RM29000
1X *Taq* Dilution Buffer, Glycerol-free	RM20101

Product Description

The theoretical molecular weight of *Taq* DNA polymerase M101 is 94 KD, with 5'→3' polymerase activity and 5'→3' exonuclease activity, but no 3'→5' exonuclease activity. The PCR product has A-tailing at the 3' end, which can be cloned with dT/dU vector, and is suitable for downstream PCR, qPCR, RT-qPCR and NGS application.

Product Components

Component	250 U	1,000 U
Taq DNA Polymerase M101 (5,000 U/mL)	50 μL	200 μL
10X PCR Reaction Buffer, Mg^{2+} plus*	1.25 mL	1.25 mL

*, *Note: 10X PCR Reaction Buffer, Mg2+ plus should only be used as reaction buffer for Taq DNA Polymerase M101.*

Product Source

This product is expressed in Escherichia coli cloned with Thermus aquaticus YT-1 *Taq* DNA Polymerase gene and is purified through multiple steps.

Unit Definition

One unit (U) is defined as the amount of enzyme that incorporates 10 nM of dNTPs into acid-insoluble products in 30 min at 75℃.

1X PCR Reaction Buffer, Mg^{2+} plus Components

20 mM Tris-HCl, 10 mM $(NH_4)_2SO_4$, 10 mM KCl, 2 mM $MgSO_4$, 0.1% Triton X-100, pH 8.8 @ 25℃

Storage

Store at -20℃.

Storage Solution for Enzymes

10 mM Tris-HCl, 100 mM KCl, 1 mM DTT, 0.1 mM EDTA, 0.5% Tween 20, 0.5% NP-40, 50% Glycerol, pH 7.4@ 25℃

Recommendations

Recommended PCR reaction

PCR reaction system (50 μL) *

Components	Volume (50 μL reaction)
ddH_2O	to 50 μL
10X PCR Buffer	5 μL
10 mM dNTPs	1 μL
Upstream Primer (10 μM)	1 μL
Downstream Primer (10 μM)	1 μL
Template DNA	Variable
Taq DNA Polymerase M101**	5 U

*, *Note: Gently mix the reaction system, and if necessary, collect the reagent to the bottom of the tube by rapid centrifugation. If the PCR instrument without hot lid is used, the surface of the reaction system can be covered with a layer of mineral oil to prevent the evaporation of the solution.*

**, *Note: The amount of Taq DNA Polymerase M101 can be adjusted with the range of 1-25 U according to the situation in the 50 μL reaction system.*

Reaction Process

Step	Temperature	Time	Cycles
Initial Denaturation	95℃	5 min	1
Denaturation	95℃	15-30 s	25-40*
Annealing	45-68℃	15-60 s	
Extension	68℃**	60 s/kb	
Final Extension	68℃	5 min	1
Hold	4-10℃	∞	1

**, Note: Generally, sufficient PCR products can be obtained after 25-40 cycles. If it is necessary to detect low copy genes, the number of cycles can be increased to 45.*

***, Note: The extension temperature of 68 ℃ is recommended. The extension time is related to the length of the amplified fragment. The amplification time can be calculated according to the amplification speed of 60 s/ KB; After the PCR cycle, it needs to be extended at 68 ℃ for another 5 minutes.*