

QKGEN® Taq DNA Polymerase

Product description

QKGEN® Taq DNA Polymerase is isolated from E.coli expressing a cloned DNA polymerase gene from *Thermus aquaticus*. The enzyme consists of a single polypeptide with a molecular weight of approximately 94kDa. The Taq DNA Polymerase has 5'→3' DNA polymerase and exonuclease activity and is suitable for routine polymerase chain reaction (PCR) applications. Please note, PCR products using this enzyme are not suitable for polyacrylamide gel electrophoresis(PAGE).

Highlights

- Extension rate is about 1-2 kb/min.
- Amplification of genomic DNA fragment up to 4 kb

Unit Definition

One unit of Taq DNA Polymerase incorporates 10 nmol of deoxyribonucleotide into acid-precipitable material in 30 minutes at 74°C.

Quality Control

- Functional absence of double-and single-strand endonuclease activity; >99% homogeneous measured by SDS-PAGE.
- Each batch of Taq DNA Polymerase has been assayed for amplification efficiency of the p53 gene from 10ng of human genomic DNA.

Storage Buffer

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

Specifications

Name	Cat. No.	QAP111-1	QAP111-2	QAP111-3
QKGEN® Taq DNA Polymerase	Size	500U	3000U	10000U

Components

Name	QAP111-1	QAP111-2	QAP111-3
Taq DNA Polymerase (5 U/μL)	500U × 1	500U × 6	2500U × 4
10 × Taq Buffer	1.2 mL × 1	1.2 mL × 6	1.2 mL × 20
2.5 mM dNTPs	800 μL	800 μL × 6	800 μL × 20
6 × DNA Loading Buffer	1 mL	1 mL × 2	1 mL × 4

[Note] 10×Taq Buffer(with Mg²⁺): 200 mM Tris-HCl(pH 8.3), 200 mM KCl, 100 mM(NH₄)₂SO₄, 20 mM MgSO₄, others

Storage

This product should be stored at -25~-15°C for 2 years.

Application

Routine PCR, Colony PCR

Recommended PCR reaction system

1.PCR reaction system

Components	Volume(μL)	Final concentration
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10× Taq Buffer	5	1×
Taq DNA Polymerase(5 U/μL)	0.5-1	2.5-5U
Forward Primer(10 μmol/L)	1	0.2 μmol/L
Reverse Primer(10 μmol/L)	1	0.2 μmol/L
2.5mM dNTPs	4	0.2 mM
DNA	X	-
ddH ₂ O	up to 50	

[Note]:

- 1) A final concentration of 2mM MgSO₄ is sufficient for most targets amplification. For some targets, more Mg²⁺ may be required. For optimal results, we recommend to use the 100 mM MgSO₄ stock to prepare a titration from 2mM to 4mM(final concentration) in 0.25mM increments.
- 2) 0.5μL(2.5 units) enzyme is enough for per 50 μL reaction. For better amplification, up to 1μL(5units) enzyme can be used.
- 3) If there is a little precipitation after the 10×Taq Buffer is thawed, please dissolve it in a 37°C water bath and mix it for use.

2.Reaction program

Cycle step	Temp.	Time	Cycles
Pre-denaturation	94°C	2-5 min	1
Transgender	94°C	30 sec	30-35
Annealing	50-60°C	30 sec	
Extension	72°C	1-2 kb/min	
Extended reach	72°C	5-10 min	1

Notes

1. For your safety and health, please wear a lab coat and disposable gloves when operating.
2. This product is for scientific research purposes only!