RealTaq™ DNA Polymerase

High Quality Recombinant Taq

Store at -20°C

Cat. No. RT001
500 units, with dNTP
RealTaq™ DNA Polymerase (5 U/μl) : 100 μl
10X Reaction Buffer (with 20 mM Mg^{2+}) : 2 ml
10 mM dNTPs Mix : 200 μl

Cat. No. RT011
500 units, without dNTP
RealTaq™ DNA Polymerase (5 U/μl) : 100 μl
10X Reaction Buffer (with 20 mM Mg^{2+}) : 2 ml

Cat. No. RTT01
2500 units, with dNTP
RealTaq™ DNA Polymerase (5 U/μl) : 5 x 100 μl
10X Reaction Buffer (with 20 mM Mg^{2+}) : 5 x 2 ml
10 mM dNTPs Mix : 5 x 200 μl

Cat. No. RTT11
2500 units, without dNTP
RealTaq™ DNA Polymerase (5 U/μl) : 5 x 100 μl
10X Reaction Buffer (with 20 mM Mg^{2+}) : 5 x 2 ml

Cat. No. RT002
10X Reaction Buffer (with 20 mM Mg^{2+}) : 2 ml

Recombinant	✓
5′ to 3′ Exonuclease	✓
3′ to 5′ Exonuclease	✗
Terminal dA Addition	✓
Endonuclease Free	✓

Description

RealTaq™ DNA Polymerase is a high quality thermostable enzyme derived from a thermus sp. bacterium. The enzyme is in recombinant form, expressed in E. coli. It is capable of withstanding repeated heating to 95°C without significant loss of activity. The amplified products are up to 8 kb and can be used directly in TA cloning, terminal dA tailing, screening, DNA labeling, DNA sequencing...etc.

Unit Definition

One unit is defined at the amount of enzyme that will incorporate 10 nmol of dNTP into acid-insoluble material in 30 minutes at 74°C.

Error Rate

The error rate of RealTaq™ DNA Polymerase is $1x10^{-5}$ errors per nucleotide per cycle.

Storage Buffer

20 mM Tris-HCl pH8.0, 0.1 mM EDTA, 1 mM DTT, 1.0% Triton X-100, 50% Glycerol.

10X Reaction Buffer

150 mM Tris-HCl pH8.75 at 25°C, 500 mM KCl, 20 mM $MgCl_2$, 1.0% Triton X-100.

Quality Control

Nuclease activity is not detected after incubation of 1 μg lambda/Hind III DNA with 5 units of RealTaq™ DNA Polymerase in 50 μl reaction volume reaction buffer for 18 hours at 37°C.

General Reaction Conditions

The optimal conditions for the concentration of RealTaq™ DNA Polymerase, $MgCl_2$, primers and template DNA will depend on the system being utilized. It may be necessary to determine the optimal conditions for each individual component.

1. Add the following components to a sterile microtube on ice :

Components	Volume	Final Concentration
10X Reaction Buffer	5 μl	1X
10 mM dNTP Mix	0.5 μl	0.1 μM
Primer Mix (10 μM each)	1 μl	0.2 μM
Template DNA	0.5~10 μl	n/a
RealTaq™ DNA Polymerase (5 U/μl)	0.25 μl ~0.5 μl	1.25 ~2.5 units
D.W.	add to 50 μl	n/a

2. Suggested Reaction Parameters for RealTaq™ DNA Polymerase :

Segment	Number of Cycles	Temperature	Duration
1	1	94°C	1~3 minutes
2	25~35	94°C (Denature)	30 seconds~1 minute
		Primer Tm-5°C (Anneal)	30 seconds~1 minute
		72°C (Extend)	1 minute/Kb
3	1	72°C	7 minutes
4°C (Cooling)			

3. Analyze the amplification products by agarose gel electrophoresis and visualize by ethidium bromide staining.

Caution: Always wear a lab coat, disposable gloves, and protective goggles during the procedure.
Note: For research use only. Not for use in diagnostic or therapeutic procedures.

RBC
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Real Biotech Corporation