www.real-biotech.com

RealSens™ HotStart DNA Polymerase

Ultra-High Sensitivity

Store at -20°C

Cat. No. RTH01
500 units, with dNTP
Real Sens™ HotStart DNA Polymerase (5U/μl): 100 ul
10X Reaction Buffer (with 20 mM Mg^{2+}) : 1ml
10mM dNTPs Mix : 200μl

Cat. No. RTH02
500 units, without dNTP
Real Sens™ HotStart DNA Polymerase (5U/μl): 100 ul
10X Reaction Buffer (with 20 mM Mg^{2+}) : 1ml

Cat. No. RTH11
1000 units, with dNTP
Real Sens™ HotStart DNA Polymerase (5U/μl): 200 ul
10X Reaction Buffer (with 20 mM Mg^{2+}) : 2ml
10mM dNTPs Mix : 400μl

Cat. No. RTH22
1000 units, without dNTP
Real Sens™ HotStart DNA Polymerase (5U/μl): 200 ul
10X Reaction Buffer (with 20 mM Mg^{2+}) : 2ml

Storage Buffer

20 mM Tris-HCl (pH 8.0), 50% (v/v) glycerol, 0.5%NP-40, 0.5%Tween 20, 100 mM KCl, 0.1 mM EDTA, 1 mM DTT.

10X Reaction Buffer

100 mM Tris-HCl (pH 9.0), 500 mM KCl, 0.1% (w/v) gelatin, 20 mM $MgCl_2$, 1% Triton X-100.

Description

RealSens™ HotStart DNA Polymerase is ideal for DNA fragment amplification, especially for short DNA template (size shorter than 600bp). Since RealSens™ HotStart DNA Polymerase activates only when temperature reaches 95°C for 10 minutes, it pervents the formation of misprimed products and primer-dimers at low temperature during PCR setup and the initial PCR cycle.

No additional heating step for polymerase activation is required! RealSens™ HotStart DNA Polymerase activates during the first denaturation step. It's especially designed for high PCR specificity with minimal optimization and nonspecific amplification. It makes PCR setup simple and easy while all components could be assembled at room temperature.

Features

Ultra-high sensitivity equivalent to real-time PCR.
Less non-specific amplification error.
Ideal for T&A Cloning Kit (RC001).

Applications

High throughput hot-start PCR, RT-PCR, highly specific amplification of complex genomic and cDNA templates, amplification of low copy DNA targets, generation of PCR products for TA cloning.

Unit Definition

One Unit of enzyme catalyzes the incorporation of 10 nmol of dNTP into acid-insoluble form in 30 minutes at 72°C.

Storage Condition

RealSens™ HotStart DNA Polymerase should be stored immediately upon receipt at -20 °C in a constant temperature freezer. Avoid repeated freeze–thaw cycles.

General Reaction Conditions

The optimal conditions for the concentration of RealSens™ HotStart DNA Polymerase, primers and template DNA depend on the system being ultilized. It may be necessary to determine the optimal conditions for each indivisual component.

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

Components	Volume	Final Concentration
10X Reaction Buffer	2.5μl	1X
10 mM dNTP mix	2.5μl	0.1 mM
Primer mix (10 μM each)	1.5μl	0.3μM
Template DNA	2.0μl	n/a
RealSens™ HotStart DNA Polymerase(5U/ul)	0. 5μl	2.5units
D.W.	Add to 25.0 μl	n/a

2.Suggested Reaction Parameters.

Segment	Number of Cycles	Temperature	Duration
1	1	95°C	10 minutes
2	40	94°C (Denature)	30 seconds
		50~68°C (Anneal)	30 seconds
		72°C (Extend)	30 seconds
3	1	72°C	1 minute

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

Note For research use only. Not for use in diagnostic or therapeutic procedures.

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Real Sens™ HotStart DNA Polymerase (5U/μl): 100 ul
10X Reaction Buffer (with 20 mM Mg^{2+}) : 1ml

Cat. No. RTH11
1000 units, with dNTP
Real Sens™ HotStart DNA Polymerase (5U/μl): 200 ul
10X Reaction Buffer (with 20 mM Mg^{2+}) : 2ml
10mM dNTPs Mix : 400μl

Cat. No. RTH22
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Real Sens™ HotStart DNA Polymerase (5U/μl): 200 ul
10X Reaction Buffer (with 20 mM Mg^{2+}) : 2ml

Storage Buffer
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