RBCPolymerases

Store at -20°C

RBC SensiZyme™ HotStart Taq DNA Polymerase

Ready To Use

Cat.No. RT0081 / RT0082 **V2.0**

RBCBioscience

RBC SensiZyme™ HotStart Taq (With dNTPs)

Cat.No.RT0081

RBC SensiZyme™ HotStart Taq (50 µL/tube x 1 tube)
10X SensiZyme™ Buffer (1 ml/tube x 1 tube)
dNTPs (200 µL/tube x 1 tube)
50mM $MgCl_2$ (1 ml/tube x 1 tube)

RBC SensiZyme™ HotStart Taq (Without dNTPs)

Cat.No.RT0082

RBC SensiZyme™ HotStart Taq (50 µL/tube x 1 tube)
10X SensiZyme™ Buffer (1 ml/tube x 1 tube)
50mM $MgCl_2$ (1 ml/tube x 1 tube)

Description

RBC SensiZyme® Hotstart Taq DNA poylymerase is a modified form of the recombinant Taq DNA polymerase and is provided in an inactive state with no polymerase activity at ambient temperature. This prevents the formation of misprimed products and primer-dimers at low temperature.
RBC SensiZyme® Hotstart Taq DNA polymerase is activated by a 10 minute, 95°C incubation step. It provides high DNA Polymerase specificity and increases the yield of the specific DNA polymerase product. DNA polymerase setup is quick and convenient as all reaction components can be assembled at room temperature.

10X SensiZyme Buffer

Contains Tris-HCl (pH 8.3), KCl, $(NH4)_2SO4$, 15mM $MgCl_2$, Stabilizers. The SensiZyme buffer is supplied as a 10X concentrate and should be diluted for use.

Quality Control

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

Unit Definition

One unit is defined as the amount of enzyme that will incorporate 10 nmoles of dNTPs into acid-insoluble material within 30 min at 72°C.

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

General Reaction Conditions

The optimal conditions for the concentration of RBC SensiZyme® Hotstart Taq 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.

❶ Add the following components to a sterile microtube :

Components	Volume	Final Concentration
10X SensiZyme Buffer	5 µl	1X
dNTPs mix (10mM)	1 µl	0.2 µM
Forward , Reverse Primer (10 µM)	1-5 µl (each)	0.2-1.0µM
Template DNA	0.5-1.0 µl	< 1µg
RBC SensiZyme® Hotstart Taq (5U/µl)	0.25-0.5 µl	1.25 - 2.5 units
ddH20	to 50µl	n/a

❷ Suggested Reaction Parameters for RBC SensiZyme® Hotstart Taq DNA Polymerase

Segment	Number of cycles	Temperature	Duration
1	1	(Activation) 95°C	10 minutes
2	30 ~ 40	(Denaturation) 94°C	30-60 seconds
		(Annealing) 50-68°C	30-60 seconds
		(Extension) 72°C	1minute/Kbp
3	1	(Final extension) 72°C	3 minutes

❸ 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.

RBCPolymerases Product Information

Cat.No.	Recommended product	Specification
RT001/RTT01	RBC Taq DNA Polymerase with dNTPs	RBC Taq DNA Polymerase, 10X Reaction Buffer, 10mM dNTPs Mix
RT011/RTT11	RBC Taq DNA Polymerase	RBC Taq DNA Polymerase, 10X Reaction Buffer
RT003	RBC Hi DNA Polymerase with dNTPs	RBC Hi DNA Polymerase, 10X Reaction Buffer, 10mM dNTPs Mix
RT033	RBC Hi DNA Polymerase	RBC Hi DNA Polymerase, 10X Reaction Buffer
RT004	RBC Pfu DNA Polymerase	RBC Pfu DNA Polymerase, 10X Reaction Buffer
RT006	2X RBC Taq DNA Polymerase Mastermix	2X RBC Taq Mastermix, 50mM $MgCl_2$
RT007/RT0071	2X Blue/Red Mix DNA Polymerase Mastermix	2X RBC Taq Bluemix / Redmix
RT008	RBC SensiZyme Hotstart Taq Premix	2X SensiZyme Hotstart Taq Premix, 50mM $MgCl_2$
RT0081	RBC SensiZyme Hotstart Taq with dNTPs	SensiZyme Hotstart Taq, 10X SensiZyme Buffer, 10mM dNTPs Mix
RT0082	RBC SensiZyme Hotstart Taq	SensiZyme Hotstart Taq, 10X SensiZyme Buffer
RT0083	RBC SensiZyme Hotstart Taq Bluemix	2X SensiZyme Hotstart Taq Bluemix
RT009	RBC ThermOne Real-Time Premix (SYBR Green)	1ml X 5vials
RT010	RBC ThermOne Real-Time Premix (Probe Method)	1ml X 5vials

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