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Hotstart *Taq* DNA polymerase

Catalog No. PG-30002 **Quantity:** 100 units/ 20ul **Storage:** -20℃

Description

Hotstart *Taq* DNA polymerase is a modified version of *Taq* DNA polymerase with hot start capability. Hotstart *Taq* DNA polymerase is formulated with heat labile monoclonal antibodies that, at room temperature, effectively neutralize DNA polymerase activity. Full enzyme activity is regained upon denaturation of the antibody during the initial denaturation step. Using Hotstart *Taq* DNA polymerase, hot start step is easily incorpotated into PCR protocols already optimized with *Taq* DNA polymerase, with little or no modification of cycling parameters or reaction conditions.

Storage buffer

This enzyme is supplied in 20 mM Tris-HCl, pH 8.0, 100 mM KCl, 0.1 mM EDTA, 0.5 mM DTT, 1% Triton X-100, 50% glycerol.

10X PCR buffer (1.0ml/vial)

The PCR buffer is supplied as a 10X concentrate and should be diluted for use.

Application

1. DNA amplification via PCR
2. Amlification of genomic DNA (complex templates)
3. Hot start PCR (polymerase is inhibited at room temperature during the reaction set up)
4. TA cloning
5. Realtime PCR application

Basic PCR Protocol

Add the following components to a sterile 0.5ml microcentrifuge tube kept on ice:

Components	Volume	Final Concentration
10X PCR buffer (with $MgCl_2$)	2.5 ul	1x
2.5mM dNTP	2 ul	200 uM
forward primer	0.25-1.25 ul	0.1-0.5 uM
reverse primer	0.25-1.25 ul	0.1-0.5 uM
Hotstart *Taq* (5U/ul)	0.3-0.4 ul	1.5-2.0 unit
Template < 0.5 ug	0.05-0.5 ug for genomic DNA 0.5-50 ng for plasmid	

Add sterile distilled water up to 25 ul.

Unit definition

One unit is the amount of enzyme required to catalyze the incorporation of 10 nmol of dNTP into acid-insoluble material in 30 minutes at 74℃, pH9.3, with activated salmon sperm DNA as the template-primer. The reaction conditions are: 25 mM TAPS (pH 9.3 at 25℃), 1 mM 2-mercaptoethanol, 2 mM $MgCl_2$, 50 mM KCl, 200 uM each of dATP, dTTP, dGTP, 100 uM [α-P^{32}]dCTP, 0.25 mg/ml activated salmon sperm DNA.

Purity

Nicking activity, endonuclease and exonuclease activity were not detected after the incubation of 0.6 ug of Lambda DNA, 0.6 ug of Lambda-HindIII digest or 0.6 ug of supercoiled pUC18 DNA ,with 10 units of this enzyme for 1 hour at 74℃.

Related products

Taq DNA polymerase	PG-30001
Pr Taq DNA polymerase (Taq+Pfu)	PG-30003
Hotstart Pr Taq DNA polymerase (Taq+Pfu)	PG-30004
Klen Taq DNA polymerase	PG-30005
Hotstart Klen Taq DNA polymerase	PG-30006
Real-time PCR kit	PG-30009
One Step RT-PCR kit	PG-30010
Genotyping kit	PG-30012
PCR kit	PG-30013