WIRAGEN
Molecular Research Tools

TECHNICAL SHEET:

Kit PCR HOT START

Ref : PW11

Concentration : 5 units/µL
Quantity : 250 Units

Storage: at -20°C for two years

Description

This kit includes Hot Start Taq DNA Polymerase for increased specificity and reduced non-specific amplification, a 10X Hot Start Taq Buffer optimized for efficient enzymatic activity, high-purity 2.5 mM dNTPs for reliable DNA synthesis, and 6X DNA Loading Buffer for convenient sample preparation and gel analysis. Designed to deliver superior performance across a variety of PCR applications, the kit ensures robust amplification and consistent results. Store all components at -20°C to maintain optimal performance.

Highlights

- ***Taq*** Polymerase *HOT START* offers 18-fold fidelity as compared to *Taq* Polymerase.
- Extension rate is about 1-2 kb/min.
- Template-independent "A" can be generated at the 3' end of the PCR product. PCR products can be directly cloned into pEASY-T vectors.
- Reduced nonspecific amplification and primer dimer formation.
- Different from Taq antibody, no risk of contamination from mammalian DNA.
- Different from chemical modification, long denaturing step is not needed.
- Amplification of genomic DNA fragment up to 15 kb.

Applications

- Complex templates
- GC/AT-rich templates
- Multiplex PCR
- High yield PCR

Unit Definition

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

Quality Control

Taq Polymerase *HOT START* has passed the following quality control assays: functional absence of double- and single-strand endonuclease activity; >99% homogeneous measured by SDS-PAGE. Each batch of ***Taq*** Polymerase *HOT START* has been assayed for amplification efficiency to amplify p53 gene from 10 ng 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

Téléphone : 041 40 42 27 / 06 59 19 60 33
Facebook/Instagram : Wiragen Academy
Site : www.wiragen.com

E-mail : contact@wiragen.com / wiragen.academy@gmail.com
Siège social : Local 01 lotissement Si Redouane 02 N°16 Senia
Siège formation : 12 Rue de Nancy, Résidence Col.Othmane, Oran

Kit Contents

Component	Volume
Taq Polymerase *HOT START*	250 U
10× ***Taq*** *HOT START* Buffer	0.5 ml
2.5 mM High Pure dNTPs	0.5 ml
6x DNA Loading Buffer	0.5 ml

Reaction Components

Component	Volume	Final Concentration
Template DNA	Variable	As required
Forward Primer (10 µM)	1 µl	0.2 µM
Reverse Primer (10 µM)	1 µl	0.2 µM
10× ***Taq*** *HOT START* Buffer	5 µl	1x
2.5 mM High Pure dNTPs	4 µl	0.2 mM
Taq Polymerase *HOT START*	0.5-1 µl	1.25x2.5 units
Nuclease-free Water	Variable	-
Total volume	50 µl	-

Thermal cycling conditions

94°C	2-5min	
94°C	30 sec	30-35 cycles
50-60°C	30 sec	
72°C	1-2 kb/min	
72°C	5-10 min	

Notes

- A final concentration of 2 mM $MgSO_4$ is sufficient for most targets amplification. For some targets, more Mg^{2+} may be required.
- For optimal results, we recommend to use the 100 mM $MgSO_4$ stock to prepare a titration from 2 mM to 4 mM (final concentration) in 0.25 mM increments.
- 0.5 µl (2.5 units) enzyme is enough for per 50 µl reaction. For better amplification, up to 1 µl (5 units) enzyme can be used.
- For amplification of GC/AT-rich templates and complex templates, we suggest to use GC Enhancer.