Ver: 1911

Hot Start Taq DNA Polymerase

（BW-AT0202）

Contents

Kit Contents

Catalog#	BW-AT0202-00	BW-AT0202-01	BW-AT0202-02	BW-AT0202-03
Preps	25 Units	250 Units	500 Units	1000 Units
Hot Start Taq DNA Polymerase (5U/μL)	5 μL	50 μL	100 μL	200 μL
5×PCR Buffer (Mg^{2+})	270 μL	3 x 1.0 mL	6 x 1.0 mL	11 x 1.0 mL
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Introduction

Hot Start Taq DNA Polymerase is an antibody-inactivated hot-start enzyme designed to block polymerase activity at ambient temperature. Once the PCR step reaches denaturation temperature (94℃), Taq DNA polymerase activity is restored and the resulting PCR exhibits higher sensitivity, specificity and yield. The use of this antibody-based hot start enzyme complex allows for convenient room temperature reaction set-up and reduces PCR optimization effort and contamination risk.

Hot Start Taq DNA Polymerase has intrinsic 5'→3' DNA polymerase activity and 5'→3' exonuclease activity but lacks 3'→5' exonuclease activity. It is a single polypeptide chain with a molecular weight of approximately 95 kDa and displays optimal activity at a temperature between 70-74℃. The enzyme is provided with 5×PCR Buffer (Mg^{2+}) to perform PCR amplification.

Storage and Stability

From the date of production, all components are stable for 12 months when stored at -20℃.

Before Starting

Prepare all components and get all necessary materials ready by examining this user manual and become familiar with each step and pay special attention to the followings.

Features

✪ Room temperature reaction set-up.

✪ Automatic hot start PCR.

✪ High sensitivity, high specificity, and high yield.

✪ Superior reliability and robustness.

✪ Ideal for everyday PCR.

Product Qualification

Hot Start Taq DNA Polymerase is functionally tested for amplification of a 1 kb target with 50 ng of human genomic DNA.

Product Specification

Storage Buffer: 20 mM Tris-HCl, 100 mM KCl, 0.1 mM EDTA, 1 mM DTT, 50%(v/v) glycerol, and stabilizers.

Unit Definition: One unit is defined as the amount of enzyme that can incorporate 10 nmol of dNTP into acid-insoluble material in 30 minutes at 74℃.

Recommended PCR Reaction Protocol

The following protocol is suggested as a starting point.

Component	25 µL Reaction	50 µL Reaction	Final Concentration
5×PCR Buffer (Mg^{2+})	5 µL	10 µL	1×
10 mM dNTPs (dA/dC/dT/dGTP)	0.5 µL	1.0 µL	200 µM
10 µM Forward Primer	0.5 µL	1.0 µL	0.2 µM (0.1–0.5 µM)
10 µM Reverse Primer	0.5 µL	1.0 µL	0.2 µM (0.1–0.5 µM)
Template DNA	Variable	Variable	Variable (fg-µg)
Hot Start Taq DNA Polymerase (5U/µL)	0.1-0.2 µL	0.2 µL	0.5-1.0 Unit
Nuclease-free water	Up to 25 µL	Up to 50 µL	

1. Assemble the reaction at room temperature.
2. Cap reaction vessels, gentle mix, and load into a thermal cycler.
3. Incubate tubes in thermal cycler at 94℃ for 1 to 2 minutes to completely denature the template.
4. Perform 25-40 cycles of PCR amplification as follows:

   Denature 94℃ for 15-30 s

   Anneal 55-60℃ for 15-30 s

   Extend 72℃ for 1 min per kb

   Final Extension 72℃ for 5 min

   Hold at 4℃ until use
5. Analyze PCR products by gel electrophoresis.

Limited Use and Warranty

This product is intended for *in vitro* research use only. Not for use in human.

This product is warranted to perform as described in its labeling and in BEIWO's literature when used in accordance with instructions. No other warranties of any kind expressed or implied, including, without limitation, implied warranties of merchantability or fitness for a particular purpose, are provided by BEIWO. BEIWO's sole obligation and purchaser's exclusive remedy for breach of this warranty shall be, at the option of BEIWO, to replace the products, BEIWO shall have no liability for any direct, indirect, consequential, or incidental damage arising out of the use, the results of use, or the inability to use it product.

For technical support or learn more product information, please contact us or visit our website.

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