Data sheet

SNP Taq DNA Polymerase

Catalog Number: P0055 (500U)
Catalog Number: P0056 (2.500U)

Introduction

SNP Taq DNA Polymerase is an efficient, High Fidelity and specific Hot-Start Polymerase with special N-terminal deletion and proprietary amino acids substitutions introduced into the active domain of the enzyme. Due this special modification the enzyme increases its sensitivity to mismatches at 3'-end of the primer. For this reason, unspecific amplicons are formatted due the non-perfect primers annealing.

Advantages & Features:

- ✓ Efficient: 10 to 15-fold lower mutation rate than normal Taq DNA Polymerase.
- ✓ High fidelity allele-specific amplification of DNA fragments.
- ✓ High Specificity: lowest background AS-PEX and AS-PCR.
- ✓ Hot-Start activity for less primer dimers.
- ✓ **Only 5'-3' polymerase activity, lack of 5'-exonuclease activity.**

Applications:

- ✓ High specific or Multiplex PCR.
- ✓ Real-Time PCR with intercalation dyes.
- ✓ High Fidelity dNTPs and ddNTPs.
- ✓ Mini Sequencing procedures.
- ✓ Allele-specific primer extension (AS-PEX).
- ✓ SNP genotyping by allele-specific PCR (AS-PCR).
- ✓ Single Nucleotide Polymorphism (SNP).

KIT CONTENTS

Item	Quantity	
	P0055	P0056
SNP-Taq DNA Polymerase (20U/µL)	500U	2.500U
Reaction Buffer (5x)	1mL	5x1mL
$MgCl_2$ (100 mM)	1 mL	5x1mL

Storage: Store at -20 °C.

Quality Certifications

- ✓ Functionally tested in PCR.
- ✓ Undetected bacterial DNA (by PCR).

Unit definition:

One unit is defined as the amount of enzyme that incorporates 10nmoles of dNTPs into acid-insoluble form in 30 minutes at 72°C.

(Continued on reverse side)

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BASIC REACTION CONDITIONS FOR PCR AMPLIFICATIONS

Carefully centrifuge all tubes before opening to improve recovery. PCR reactions should be set up on ice. Prepare a mix for the appropriate number of samples to be amplified.

The following protocol is recommended for a 25 µl reaction volume:

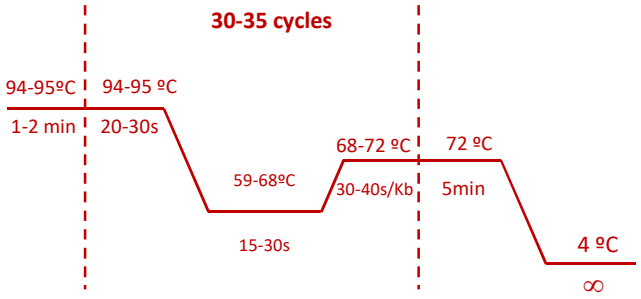
1. Assemble the following reagents in a thin-walled PCR tube.

Component	Final concentration
5X Reaction buffer	1X (5 µl)
$MgCl_2$	2.5 - 4 mM*
dNTP-Mix	0.2 mM each
primer mix (5 µM stock)	5 pmol (0,9-1,1 µl)
Template DNA	75-125 ng/25 µl genomic DNA**
SNP-Taq DNA Polymerase	5-12 units (0.2 - 0.5 µl)
PCR grade H_20	up to 25 µl total reaction volume

(*)Optimal $MgCl_2$ concentration: 3.0 -3.5 mM in the 1X reaction mixture. Higher $MgCl_2$ concentrations results in higher yield (up to 4.5 mM). Lower $MgCl_2$ (2.5 mM) results in higher specificity
(**) DNA fragments up to 400 bp from Human genomic DNA and 500 bp from Phage-DNA.

2. Mix reagents completely, and then transfer to a thermocycler.

3. Perform the following cycling conditions:



* *As with all PCR reactions, conditions may need to be optimized to achieve maximum amplicon yield. You may be able to adjust your PCR conditions to optimize reaction.*

PRODUCT USE LIMITATION

This product is developed, designed and sold exclusively for research purposes and in vitro use only. The product was not tested for use in diagnostics or for drug development, nor is it suitable for administration to humans or animals. Please refer to www.canvaxbiotech.com for Material Safety Data Sheet of the product.

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