
Taq DNA Polymerase

Cat. No.: E00007

Version 2018-07-16

Table of Contents

I	Introduction	1
II	Applications	1
III	Key Features	1
IV	Shipping And Storage	2
V	General PCR Protocol	2
VI	Ordering information	3

I Introduction

Taq DNA Polymerase is a thermostable DNA Polymerase isolated from an *E. coli* strain that carries the *Taq* DNA polymerase gene. *Taq* DNA polymerase is the most common polymerase used for PCR* reactions.

II Applications

Taq DNA Polymerase can be used in most applications including the following:

- ◇ Polymerase chain reaction (PCR).
- ◇ 3' A-tailing of blunt ends.
- ◇ Primer extension.
- ◇ DNA sequencing.

III Key Features

- ◇ Terminal transferase activity. *Taq* DNA Polymerase has terminal transferase activity which results in the addition of a single nucleotide (adenosine) at 3' end of the extension product.
- ◇ High-purity. No contamination activity has been detected in standard test reactions.

IV Shipping And Storage

This product is shipped on blue ice. Store the product at -20°C .

V General PCR Protocol

1. Thaw all the reagents for PCR on ice. Vortex to mix to remove concentration gradient and then spin down briefly.
2. Set up 50 μL PCR reaction in a thin-wall PCR tube on ice by the following recipe: 5 μL 10X *Taq* buffer solution containing Mg^{2+} .
 - 1 μL 10 mM dNTP stock
 - 1 μL Forward primer (50 μM)
 - 1 μL Reverse primer (50 μM)
 - 2 μL Template (up to 100 ng/ μL) sterile or filtered water
 - 39.5 μL sterile or filtered water
 - 0.5 μL *Taq* polymerase (5 units/ μL)
3. Program PCR cycler as following and start:

Initial denaturing:	94 $^{\circ}\text{C}$ for 3 minutes
Then 30 cycles of:	94 $^{\circ}\text{C}$ for 30 seconds
	55 $^{\circ}\text{C}$ for 45 seconds
	72 $^{\circ}\text{C}$ for 60 seconds (about 1 kb/minute)
Extension:	72 $^{\circ}\text{C}$ for 7 minutes
4. When the temperature of PCR cycler reaches 94 $^{\circ}\text{C}$, put PCR reaction tube in and continue the program.
5. Analyze PCR fragments on an agarose or polyacrylamide gel.

Note:

- This is a basic protocol. One needs to optimize the reagent concentrations, conditions and parameters.
- This protocol is for PCR cycler with a hot lid. Otherwise, mineral oil needs to be added to prevent evaporation.
- 5% DMSO, 1M betaine, or both can be included in PCR reaction to improve the results when a GC-rich template is used.

VI Ordering information

Product Name	Cat. No.
<i>Taq</i> DNA Polymerase	E00007
Green <i>Taq</i> DNA Polymerase	E00043

* The PCR process is covered by U. S. Patent numbers 4683195 and 4683202 issued to Cetus and owned by Hoffman-La Roche Inc. GenScript does not encourage or support the unauthorized use of the PCR process. Use of this product is recommended for persons that either have a license to perform PCR or are not required to obtain a license.

Contact us

Web: <https://www.genscript.com>

Email: product@genscript.com

Fax: 1-732-518-5150