

# Taq DNA Polymerase

**CATALOG #:** 9001-500 500 units  
9001-2500 2500 units

**LOT #:** \_\_\_\_\_

## DESCRIPTION:

Taq DNA Polymerase is a thermostable enzyme that replicates DNA and exhibits a half-life of 40 minutes at 95°C. Taq catalyzes the polymerization of nucleotides into duplex DNA in the 5'-3' direction in the presence of magnesium. The enzyme has an apparent molecular weight of 94,000 daltons by SDS-PAGE and exhibits 5' – 3' exonuclease activity. Taq is recommended for use in PCR and primer extension reactions at elevated temperature. The 10X Reaction Buffer provided has been optimized for amplification of both short and long PCR products.

**CONCENTRATION:** 2.5 u/μl

## UNIT DEFINITION:

One unit is defined as the amount of enzyme required to catalyze the incorporation of 10 nanomoles of dNTPs into acid insoluble material in 30 minutes at 74°C under standard DNA polymerase assay conditions.

## ENZYME STORAGE BUFFER:

20 mM Tris-HCl, pH 8.0, 100 mM KCl, 0.1 mM EDTA, 1 mM DTT, 50% glycerol, 0.5% Tween 20, and 0.5% Nonidet P40.

**STORAGE CONDITIONS:** -80°C

## 10X BUFFER:

When diluted 1:10, this buffer contains 10 mM KCl, 20 mM Tris-Cl, pH 8.75, 2 mM MgSO<sub>4</sub>, 10 mM (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, 0.1% Triton X-100, 1 mg/ml BSA. The buffer is supplied with Taq DNA polymerase (Cat.# 9001-500, -2500).

**For Research Purpose Only! Not to be used in humans.**

## SUGGESTED PCR REACTION MIX:

For each 25 μl PCR reaction, mix the following components in a thin-walled PCR tube:

10X PCR Buffer	2.5 μl
dNTP Mix (2.5 mM each dNTP)	2.0 μl
Upstream Primer	0.1 – 0.6 μM
Downstream Primer	0.1 – 0.6 μM
Template DNA	2 – 250 ng
Taq DNA Polymerase (2.5 u/μl)	0.625 units
Add H <sub>2</sub> O to a total volume	25 μl

## SUGGESTED PCR CYCLES:

Initial Denaturation:	94°C	120 sec.
Denaturation	94°C	30 sec.
Annealing	50-65°C	60 sec.
Elongation	72°C	30-180 sec.
Final Elongation	72°C	420 sec.

**Note:** For optimal specificity and amplification rate the temperature and cycling times should be optimized for each new target or primer pair.

## RELATED PRODUCTS:

Link-FAST™ 5 Minutes DNA Ligation Kit  
Gel-FAST™ 20 Minutes Gel Staining/Destaining Kit  
Mitochondrial DNA Isolation Kit  
Genomic DNA Isolation Kit  
InsertFinder™ PCR Quick Screening Kit  
Luciferase Reporter Assay Kit  
-Galactosidase Staining Kit  
T4 DNA Ligase  
Agarase  
dNTP Mix  
Advanced Glycation Endproduct (AGE)-BSA  
siRNA Vectors  
Protease Inhibitor cocktail  
Apoptosis Detection Kits and Reagents  
Cell Fractionation Kits  
Cell Proliferation and Senescence Assay Kits