Taq DNA Polymerase

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

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.

Components:

Contents	9001-500		9001-2500	
	Size	Part No.	size	Part No.
Taq DNA Polymerase	500 units	9001-500-1	2500 units	9001-2500-1
10X Reaction Buffer	2 ml	9001-500-2	2 ml X 5	9001-2500-2

CONCENTRATION: 2.5U/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: -20° C

FOR RESEARCH USE ONLY! Not to be used on humans.

10X BUFFER: When diluted 1:10, this buffer contains 10 mM KCl, 20 mM Tris-Cl, pH 8.75, 2 mM MgSO4, 10 mM $(NH4)_2SO_4$, 1% Triton X-100, 1 mg/ml BSA. The buffer is supplied with Taq DNA polymerase (Cat.# 9001-500, -2500).

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_2O 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
- β-Galactosidase Staining Kit
- T4 DNA Ligase
- Agarase
- dNTP Mix
- Advanced Glycation Endproduct (AGE)-BSA
- siRNA Vectors
- Protease Inhibitor cocktail