



## ZymTaq DNA polymerase

Cat No	Pack size	conc
TQ0500	500U	5U/ul
TQ1000	1000U	5U/ul
TQ2500	2500U	5U/ul

**Description:** ZymTaq DNA polymerase is a thermostable enzyme isolated from *Thermus aquaticus*. This enzyme contains 5'-3' polymerase and 5'-3' exonuclease activity.

**Storage buffer:** 50mM Tris-HCl pH7.9, 50mM KCl, 0.1mM EDTA, 1mM DTT, 0.5mM PMSF, 50% glycerol.

**10X reaction buffer:** buffer A containing 15mM MgCl<sub>2</sub>, buffer B without MgCl<sub>2</sub>.

**Unit description:** one unit is defined as the amount of enzyme that will incorporate 10n mole of dNTP into acid-insoluble material in 30 minutes at 74°C. The reaction conditions are: 50mM Tris-HCl pH8.8, 50mM NaCl, 5mM MgCl<sub>2</sub>, 200uM each of dATP, dCTP, dGTP, dTTP, 10 ug activated calf thymus DNA and 0.1mg/ml BSA in a final volume of 50 ul.

**Storage:** 50% glycerol (v/v), 20 mM Tris-HCl pH 8.7 at -20°C, 100 mM KCl, 0.1 mM EDTA.

**Source:** *E coli* clone

**Quality control:** The enzyme is free of nicking and priming activities, exonucleases and non-specific endonucleases. SDS/PAGE - 95 kD band. Activity and stability tested via thermo-cycling. The error rate per nucleotide per cycle is  $\sim 2.5 \times 10^{-5}$ ; the accuracy is  $\sim 4 \times 10^4$ . Estimated half life at 95°C is 1.5 hours.

### Shipping and Storage conditions:

Shipping and temporary storage at -20 for up to 1 month at room temperature has no detrimental effects on the quality of ZymTaq DNA polymerase.

### PCR reaction mix:

Component	Volume
ZymTaq	0.5-1ul
10X buffer	10 ul
10mM dNTP	2 ul
Primer1 (20 pmol)	2-4 ul
Primer2 (20 pmol)	2-4 ul
template	1-10 ul
ddH <sub>2</sub> O	Up to 100 ul
Total	100 ul

### PCR cycles

Step	Temperature	Time	Cycle
Initial denaturation	94-95°C	1-3 mins	1
Denaturation	94-95°C	10-60sec	25-35
Annealing	50-68°C	10-30sec	
Extension	72°C	1min/1kb	
Final extension	72°C	1-10 mins	1

**IMPORTANT:** Annealing temperature should be 2-6°C lower than the primer melting temperature.

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