



**CATALOGUE #:** 7T1

**PRODUCT NAME:** *Thermus aquaticus* (Taq) DNA polymerase, recombinant

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**Description:** Taq DNA Polymerase (recombinant form of the enzyme from the thermophilic eubacterium *Thermus aquaticus* strain YT-1) consists of a single polypeptide chain with a molecular weight 94 kDa. It is a highly processive 5'-3' DNA polymerase lacking 3'-5' exonuclease activity. The enzyme is highly purified and is free of nonspecific endo- and exonucleases. This Taq DNA polymerase has a nontemplate-dependent activity, which adds a single deoxyadenosine (A) to the 3' ends of PCR products (3'-A overhangs). This property allows easily and efficiently to ligate the PCR products in TA cloning vectors. Amplification of target DNA fragments from 100 bp to 4 Kb can be achieved with this enzyme.

**Storage and dilution buffer:** 20 mM HEPES, pH 7.9, 125 mM KCl, 0.1 mM EDTA, 1 mM DTT, 0.5 % Tween 20, 50 % glycerol.

**Unit definition:** One unit of activity is the amount of enzyme required to incorporate 10 nmoles of dNTP into acid-insoluble material in 30 minutes at 72°C.

**Reaction buffer**  
**10x (Mg<sup>2+</sup> minus):** 670 mM Tris-HCl, pH 8.8, 166 mM (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, 0.1 % Tween 20.  
Other common PCR buffers for Taq-DNA polymerases can be used as well.  
**Optimal** concentration of MgCl<sub>2</sub> is 1.0-2.5 mM.

**Applications:** PCR and DNA labelling.

**Quality control:** Activity, SDS-PAGE purity, absence of endonucleases/nickases and exonucleases.

**Concentration:** 5 units/μl

**Storage:** -20 °C