Specification

Taq DNA Polymerase A5186

Product Code:	A5186
Product Name:	*Taq* DNA Polymerase
Specifications:	: • Unit definition: see comment. : • supplied with reaction buffer (10X) Concentration: 5000 Units/ml
WGK:	1
Storage:	-20°C
Shipment:	wet ice
Origin:	from *Thermus aquaticus*
CS:	35079090

Comment

Taq DNA Polymerase is a thermostable enzyme of approximately 94 kDa isolated from the eubacterium *Thermus aquaticus* strain YT-1 (1). This unmodified enzyme replicates DNA at 72°C. The enzyme catalyzes the polymerization of nucleotides into duplex DNA in the 5' → 3' direction in the presence of magnesium ions. Besides it possesses a 5' → 3' exonuclease activity. The enzyme is highly purified and is free of nonspecific endo- or exonucleases. *Taq* DNA polymerase adds extra 3'-dA nucleotide(s) overhangs to their reaction products. For optimal performance, the enzyme may require a minimal concentration of DNA in the reaction mixture. Some of the template may be bound by inhibitors of the wall of the reaction tube. To prevent this, e.g. hering sperm DNA may be added to achieve a total DNA concentration of at least 40 pg/µl. The hering sperm DNA will block the surface and the template will be available for the polymerase.The storage buffer is 10 mM Potassium phosphate (pH 7.4), 0.1 mM EDTA, 50 % glycerol, 0.1 % Triton® X-100 and 0.1 % Tween® 20. The **Reaction buffer (10X)** is suplied with the enzyme either incomplete (without Magnesium) 160 mM $(NH_4)_2SO_4$, 670 mM Tris · HCl (pH 8.8), 0.1 % Tween® 20 or complete with 25 mM $MgCl_2$. The recommended magnesium concentration is 1.5 mM - 6 mM. The enzyme is stable at room temperature for at least 3 days without any loss of activity.**Unit definition**: One unit of activity is defined as the amount of enzyme required to incorporate 10 nmoles of dNTP into acid-insoluble DNA fraction in 30 minutes at 72°C

Bibliography

(1)Kaledin, A.S. *et al.* (1980) *Biokhimiya* **45**, 644 (Rus)

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