

Catalog No.: D101-500

Product Name: *Tsg* DNA Polymerase

Size: 500 units

Concentration: 5 units/μl

Storage: Store at -20°C.

Description: *Tsg* DNA Polymerase is a thermostable DNA polymerase isolated from a strain of *Thermus sp.*, and designed for primer extension reactions and PCR. *Tsg* has a half-life of 3 hours at 95°C, which means it is more stable than other DNA polymerases. It is also a high fidelity polymerase, with an error frequency of 15×10^6 during DNA synthesis. DNA sequencing with *Tsg* DNA Polymerase produces uniform band intensities and low background. *Tsg* has independent terminal transferase activity, which results in the addition of a single adenosine (A) at the 3' end of the extension product, thereby allowing the amplification product to be cloned in T-vectors.

Standard *Taq* DNA Polymerase amplification conditions can be used for *Tsg* DNA Polymerase.

Quality Control: *Tsg* DNA Polymerase is highly purified and free of contaminating endonucleases, exonucleases and nicking activity. For endonuclease assay, 1μg of Lamda/*Hind* III DNA is incubated with 20 units of enzyme in assay buffer at 75°C for 16 hours with no visible contaminating activity observed. Every lot is tested for its performance consistency.

Unit Definition: One unit incorporates 10nmoles of dNTPs into acid-insoluble material in 30 minutes at 74°C.

Storage Buffer: 5 units/μl in 20mM Tris HCl (pH8.0), 0.1mM EDTA, 1mM DTT, 0.1% TritonX-100, and 50% glycerol.

10x Reaction Buffer (Mg⁺⁺free): 500mM KCl, 100mM Tris-HCl (pH9.0), and 1% Triton X-100 is optimized for use with 200μM dNTPs.

Magnesium Chloride: (25mM MgCl₂) In general, 1.5mM MgCl₂ is recommended; this may vary with different conditions and primer sets.

Related Products	Catalog No.
• dNTP PreMix	D116
• Taq Plus Master Mix	D124
• Tissue-Direct™PCR Kit	D300
• 100bp DNA Ladder	M107
• 1Kb DNA Ladder II	M108
• DNA SafeStain	C138
• Standard-Agarose	A113

This product is for research use only.