

**Catalog No.:** D101-200

**Product Name:** *Tsg* DNA Polymerase

**Size:** 200 units

**Concentration:** 5 units/ $\mu$ l

**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  $15 \times 10^6$  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, 1 $\mu$ g of Lambda/*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 10nmol of dNTPs into acid-insoluble material in 30 minutes at 74°C.

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

**10x Reaction Buffer (Mg<sup>++</sup>free):** 500mM KCl, 100mM Tris-HCl (pH9.0), and 1% Triton X-100 is optimized for use with 200 $\mu$ M dNTPs.

**Magnesium Chloride:** (25mM MgCl<sub>2</sub>) In general, 1.5mM MgCl<sub>2</sub> 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 <sup>™</sup> 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.*