

Data sheet

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Smar^{NG}TAQ DNA POLYMERASE**RESEARCH USE ONLY****Recombinant Smar^{NG}Taq DNA Polymerase**

(Deoxynucleosidetriphosphate: DNA Deoxynucleosidyltransferase E.C. 2.7.7.7.)

SOURCE:**Thermus Auqaticus YT1 strain, Mouse monoclonal antibodies (two clones)**

Cat.No.	Pack	Conc.
DSTN-500	500 Units	5 U/μl
DSTN-1000	1000 Units	5 U/μl

DESCRIPTION

Smar^{NG}Taq DNA Polymerase is complex mixture of a thermostable 94 kDa **DiaTaq** DNA Polymerase purified from E.coli PVG-AI recombinant strain expressing **Thermus aquaticus** polymerase gene and **two clones of highly specific monoclonal antibodies**.

Smar^{NG}Taq is inactive under conditions of amplification reaction preparation. It provides **improved specificity and high yield amplification, even with low copy number and complex DNA templates**, when compared to standard DNA polymerases. **Smar^{NG}Taq** can **eliminate amplification artifacts**, such as primer-dimer formation and mispriming.

An advantage of **Smar^{NG}Taq** is the absence of additional heating step for polymerase activation. Heat activation of enzyme occurs during the first penetration step. An active complex of **Smar^{NG}Taq** dissociates automatically over **+80°C**, allowing activating DNA polymerase, preventing miswriting during amplification.

Stability:

Shelf life 24 months if store at -20°C

UNIT DEFINITION

One unit is defined as the amount of enzyme that incorporates 10 moles of dNTP's into acid-insoluble form in 30 minutes at 74°C under assay conditions.

STORAGE AND DILUTION BUFFER:

20mM Tris-HCL (pH 8.0);100mM KCL;0.1mM EDTA; 1mM DTT; 50 glycerol,0.5% Nonidet P-40;0.5% Tween-20

ASSOCIATED ACTIVITIES:

Endonuclease and exonuclease activities were not detectible after 2 and 1 hours incubation, respectively, of 1 μ g lambda DNA and 0.22 μ g of EcoR I digested lambda DNA, respectively, at 72°C in the presence of 15-20 units of **Smar^{NG}Taq** DNA polymerase

AMPLIFICATION BUFFERS:

10X NH4-buffer: 166mM (NH₄)₂SO₄; 670mM Tris-HCL (pH 8.8 at 25°C);0.1% Tween-20.

5X "Ready-to-load" NH4-buffer: 166mM (NH₄)₂SO₄; 670mM Tris-HCL (pH 8.8 at 25°C);0.1% Tween-20; two inherent dyes; stabilizers

5X "Enhanced" NH4-buffer: 166mM (NH₄)₂SO₄; 670mM Tris-HCL (pH 8.8 at 25°C);0.1% Tween-20; stabilizers/enhancer

APPLICATIONS:

- Real-Time PCR
- Multiplex amplification - **Highly recommended**
- High sensitivity applications
- Low-copy number PCR
- Complex DNA template PCR

STORAGE CONDITIONS :

Store **Smar^{HC}Taq** DNA Polymerase at -20°C for long term storage

SHIPPING CONDITIONS:

Should be shipped at ambient temperature
For long distance shipments preferably in **Blue Ice**