

Data sheet

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SmarTth DNA Polymerase**RESEARCH USE ONLY****Recombinant SmarTth DNA polymerase**

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

SOURCE:**Thermus Thermophilus HB8 strain, Mouse monoclonal antibodies (two clones)**

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

Stability:

Shelf life 24 months if store at -20°C

UNIT DEFINITION

One unit defined as the amount of enzyme that incorporates 10 nmoles 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

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

DESCRIPTION

SmarTth DNA Polymerase is complex mixture of a thermostable 94 kDa Tth DNA Polymerase purified from E.coli PVG-AI recombinant strain expressing **Thermus Thermophilus HB8** polymerase gene and **two clones of specific monoclonal antibodies**.

SmarTth is inactive under conditions of amplification reaction preparation. It provides improved specificity when compared to standard DNA polymerases. **SmarTth** can eliminate amplification artifacts such as primer-dimer formation and mispriming.

SmarTth also has reverse-transcription activity in presence of Mn²⁺ ions, as regular **Tth** polymerase.

An advantage of **SmarTth** is the absence of additional heating step for polymerase activation. Heat activation of enzyme occurs during the first denaturation step. An active complex of **SmarTth** dissociates automatically over **+70°C**, allowing activating DNA polymerase.

ASSOCIATED ACTIVITIES:

Endonuclease and exonuclease activities were not detectible after 2 and 1 hours incubation, respectively, of 1 μg lambda DNA and 0.22 μg of EcoR I digested lambda DNA, respectively, at 72°C in the presence of 15-20 units of **SmarTth** DNA polymerase

APPLICATIONS:

- Real-Time PCR
- Multiplex amplification
- High sensitivity applications
- Low-copy number PCR
- Complex DNA template PCR
- RT/PCR

STORAGE CONDITIONS :

Store **SmarTth** 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