DIALAT Ltd.

Data sheet
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SmarTaq DNA POLYMERASE (Low Glycerol)

RESEARCH USE ONLY

Recombinant SmarTaq DNA Polymerase

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

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

Stability:
Shelf life 24 months if store at -20°C

UNIT DEFINITION
One unit is 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; 5% glycerol, 0.5% Nonidet P-40;0.5% Tween-20, Stabilizers.

AMPLIFICATION BUFFERS:

10X NH4-buffer: 166mM $(NH_4)_2SO_4$; 670mM Tris-HCL (pH 8.8 at 25°C); 0.1% Tween-20.
5X "Ready-to-load" NH4-buffer: 166mM $(NH_4)_2SO_4$; 670mM Tris-HCL (pH 8.8 at 25°C);0.1% Tween-20; two inherent dyes; stabilizers
5X "Enhanced" NH4-buffer:
166mM $(NH_4)_2SO_4$; 670mM Tris-HCL (pH 8.8 at 25°C); 0.1% Tween-20; stabilizers/enhancer

SOURCE:
Thermus Auqaticus YT1 strain**, Mouse monoclonal antibodies.**

DESCRIPTION
SmarTaq DNA Polymerase is complex mixture of a thermostable 94 kDa **DiaTaq** DNA Polymerase purified from E.coli PVG-AI recombinant strain expressing **Thermus aquatiqus** polymerase gene and **highly specific monoclonal antibodies.**
SmarTaq 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**. SmarTaq** can **eliminate amplification artifacts,** such as primer-dimer formation and mispriming.
An advantage of **SmarTaq** is the absence of additional heating step for polymerase activation. Heat activation of enzyme occurs during the first denaturation step. An active complex of **SmarTaq** dissociates automatically over **+70°C**, allowing activating DNA polymerase, preventing mispriming during amplification.

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 ***SmarTaq*** DNA polymerase

APPLICATIONS:
- Real-Time PCR
- Multiplex amplification - ***Highly recommended***
- High sensitivity applications
- Low-copy number PCR
- Complex DNA template PCR
- Preparation of lyophilized enzyme or MasterMixs

STORAGE CONDITIONS :
Store ***SmarTaq*** DNA Polymerase at -20°C for long term storage
Can be stored for 3 months at +4°C
SHIPPING CONDITIONS:
Should be shipped at ambient temperature
For long distance shipments preferably in
Blue Ice

DIALAT Ltd.,117 149,Moscow, Russia, Sympheropolsky blv.8, Tel.+499 613 2052, Fax.+499 613 4818
e-mail: info@dialat.ru