DIALAT Ltd.

Data sheet
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SNP DNA POLYMERASE

RESEARCH USE ONLY

Recombinant SNP DNA Polymerase

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

Cat.No.	Pack	Conc.
DSN-500	**500 Units**	**20-25 U/μl**
DSN-1000	**1000 Units**	**20-25 U/μl**

Stability:
Shelf life 12 months if store at -20°C

UNIT DEFINITION
One unit defined as the amount of enzyme that incorporates 10nmoles of dNTPs into acid- insoluble form in 30 minutes at 72°C.

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:

5X SNPase Buffer Mg free

SOURCE:
Thermus Aquatiqus

DESCRIPTION
SNPase DNA Polymerase is an optimized version of truncated *Taq* DNA polymerase designed for SNP genotyping. This enzyme has only 5'-3' polymerase activity and is recommended for **SNP** genotyping by allele-specific PCR (AS-PCR), allele-specific primer extension (AS-PEX) and minisequencing procedures.
SNPase DNA Polymerase is a unique enzyme among the analogues existing in the market due to the presence of special point mutation in the active site of the enzyme. **SNPase DNA Polymerase** provides extremely high enzymatic specificity and high fidelity incorporation of deoxy- and dideoxynucleotides. The relative mutation rate during polymerization is 10-15 fold lower for **SNPase DNA Polymerase** as compared with *Taq* DNA polymerase.
The unique properties of SNPase DNA Polymerase make it ideal enzyme for SNP genotyping by high fidelity minisequencing, AS-PEX and AS-PCR techinques.

ASSOCIATED ACTIVITIES:
Endonuclease and exonuclease activities were not detectible under standard assay condition.

APPLICATIONS:
Highly suited to SNP genotyping by AS-PCR, AS-PEX and minisequencing,

STORAGE CONDITIONS :
Store ***SNP*** DNA Polymerase at -20°C

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

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General Protocol for Allele-specific PCR with SNPase DNA polymerase

SNPase DNA polymerase can discriminate 3' mismatched primers with high efficiency and can be used for SNP genotyping by AS-PCR. **SNPase DNA polymerase** recommended for high fidelity allele-specific amplification of DNA fragments up to 400 bp from Human genomic DNA and 500 bp from λ DNA.
NOTE: **SNPase is very sensitive to the major of PCR inhibitors, so use high quality DNA template for PCR amplification.**

Add the following components to the PCR reaction tube (on ice):

Component	25μl reaction	Final conc.
5x PCR buffer	5 μl	1x
$MgCl_2$ (25mM)	2.5 - 3.5 μl	2.5 - 3.5 mM
10x dNTP mix (2 mM each)	2.5 μl	0.2 mM each
Primer mix (5 μM each)	1 μl	5 pmol (each) per 25 μl
Template DNA (genomic)	as required	50 – 150 ng per 25 μl
SNPase DNA polymerase	0.2 – 0.5 μl	5 – 12.5U per 25μl
Water PCR grade	to 25 μl	

Amplification protocol

Perform 30–40 cycles of PCR as follows:

Initial Denaturation	94 °C for 1 – 2 min
Denaturation	95 °C - 20-30 s
Annealing	59 °C – 68 °C -10-30 s
Elongation	68-72°C - 10-30 s
Final Elongation	72°C – 5min

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