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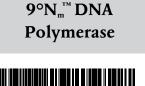


2.000 U/ml 200 units Lot: 0031209

RECOMBINANT Store at -20°C Exp: 9/14

Description: 9°N DNA Polymerase is a thermophilic DNA polymerase that has been genetically engineered to have a decreased (1% - 5%) of the wildtype)  $3' \rightarrow 5'$  proofreading exonuclease activity. 9°N\_DNA Polymerase features a half-life of 6.7 hours at 95°C.

Source: An E. coli strain that carries the 9°N (E143D) DNA Polymerase gene (1.2), a genetically engineered form of the native DNA polymerase from the extremely thermophilic marine archaea







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Thermococcus species 9°N-7. The archaea was isolated from a submarine thermal vent. at a depth of 2.500 meters. 9° north of the equator at the East Pacific Rise (3).

Supplied in: 100 mM KCl, 0.1 mM EDTA, 10 mM Tris-HCI (pH 7.4), 1 mM DTT and 50% glycerol.

#### Applications:

- Primer extension
- SNP Analysis

**Reagents Supplied with Enzyme:** 

10X ThermoPol<sup>™</sup> Reaction Buffer.

**Reaction Conditions:** 1X ThermoPol Reaction Buffer, 200 µM each dNTP, DNA template, primer and 1-2 units 9°N\_ DNA Polymerase in a total reaction volume of 100 µl.

# 1X ThermoPol Reaction Buffer:

20 mM Tris-HCI 10 mM (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> 10 mM KCl 2 mM MgSO 0.1% Triton® X-100 pH 8.8 @ 25°C

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Unit Definition: One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into acid-insoluble material in 30 minutes at 75°C.

Unit Assav Conditions: 1X ThermoPol Reaction Buffer, 200 µM dNTPs including [<sup>3</sup>H]-dTTP and 15 nM primed single-stranded M13mp18.

### Heat Inactivation: No

# Quality Control Assays

Endonuclease Activity: Incubation of a 50 µl reaction in ThemoPol Reaction Buffer supplemented with 400 uM each dNTP containing a minimum of 20 units of 9°N, DNA Polymerase with 1  $\mu$ g of supercoiled  $\phi$ X174 DNA for 4 hours at either 37°C or 75°C results in < 10% conversion to the nicked form as determined by agarose gel electrophoresis.

### Notes on use:

It is suggested that the number of units be optimized with each primer:template.

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15 nM primed single-stranded M13mp18.

Endonuclease Activity: Incubation of a

supplemented with 400 µM each dNTP

50 ul reaction in ThemoPol Reaction Buffer

containing a minimum of 20 units of 9°N., DNA

DNA for 4 hours at either 37°C or 75°C results

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Heat Inactivation: No

Notes on use:

**Quality Control Assays** 

(see other side)

CERTIFICATE OF ANALYSIS

## References:

**References:** 

447-462

#B1003S

Diluent E

#B8005S

#B9004S

#B9005S

#B9013S

Pack

1. Southworth, M. W. et al. (1996) Proc. Natl.

2. Rodriguez, A. C. et al. (2000) J. Mol. Biol.

3. Thermococcus sp. (strain 9°N-7) isolated by

Dr. Holger Jannasch, Woods Hole Oceano-

6.0 ml

4.0 ml

6.0 ml

6.0 ml

6.0 ml

ThermoPol II (Mg-free) Reaction Buffer Pack

ThermoPol DF (Detergent-free) Reaction Buffer

Acad. Sci. USA, 5281-5285.

graphic Institute, 1991.

**Companion Products Sold Separately:** 

Magnesium Sulfate (MgSO<sub>4</sub>) Solution

ThermoPol Reaction Buffer Pack

- 1. Southworth, M. W. et al. (1996) Proc. Natl. Acad. Sci. USA, 5281-5285.
- 2. Rodriquez, A. C. et al. (2000) J. Mol. Biol. 447-462
- 3. Thermococcus sp. (strain 9°N-7) isolated by Dr. Holger Jannasch, Woods Hole Oceanographic Institute, 1991.

## **Companion Products Sold Separately:**

Magnesium Sulfate (MgSO<sub>4</sub>) Solution #B1003S 6.0 ml Diluent E #B8005S 4.0 ml ThermoPol Reaction Buffer Pack #B9004S 6.0 ml ThermoPol II (Mg-free) Reaction Buffer Pack #B9005S 6.0 ml ThermoPol DF (Detergent-free) Reaction Buffer Pack #B9013S 6.0 ml

(see other side)



DeoxynucleotideSolutionSet#N0446S25 μmol eachDeoxynucleotideSolution#N0447S8 μmol each#N0447L40 μmol each

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Deoxynucleotide Solution Set #N0446S 25 µmol each Deoxynucleotide Solution Mix #N0447S 8 µmol each #N0447L 40 µmol each

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