**Therminator™ DNA Polymerase**

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

**Applications:**
- DNA sequencing by partial ribosubstitution (3)
- DNA sequencing using dideoxy (4) or acyclic (5) chain terminators
- SNP analysis with dideoxy or acyclic chain terminators (6)

**Reagents Supplied with Enzyme:**
- 10X ThermoPol™ Reaction Buffer.

**Reaction Conditions:**
- 1X ThermoPol Reaction Buffer: 20 mM Tris-HCl, 10 mM (NH₄)₂SO₄, 10 mM KCl, 2 mM MgSO₄, 0.1% Triton X-100, pH 8.8 @ 25°C

**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 Assay Conditions:**
- 1X ThermoPol Reaction Buffer, 200 µM dNTPs including [3H]-dTTP and 15 nM primed single-stranded M13mp18.

**Heat Inactivation:** No

**Quality Control Assays**

**Exonuclease Activity:** Incubation of a 50 µl reaction in ThermoPol Reaction Buffer containing a minimum of 20 units of Therminator DNA Polymerase and 1 µg of a mixture of single and double-stranded [3H] E. coli DNA for 4 hours at 75°C releases < 0.1% of the total radioactivity.

**Endonuclease Activity:** Incubation of a 50 µl reaction in ThermoPol Reaction Buffer containing a minimum of 20 units of Therminator DNA Polymerase with 1 µg of supercoiled φX174 DNA for 4 hours at 37°C results in < 10% conversion to the nicked form as determined by agarose gel electrophoresis.

**References:**

**Companion Products Sold Separately:**
- Magnesium Sulfate (MgSO₄) Solution #B1003S 6.0 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

**References:**
Deoxynucleotide Solution Set  
#N0446S 25 µmol each

Deoxynucleotide Solution Mix  
#N0447S 8 µmol each  
#N0447L 40 µmol each

Acyclonucleotide Set  
#N0460S 0.5 µmol each

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