**M0330S**

**Recombinant DNA Polymerase, Large Fragment**

**Description:** Bsu DNA Polymerase I, Large Fragment retains the 5’→3’ polymerase activity of the *Bacillus subtilis* DNA polymerase I (1), but lacks the 5’→3’ exonuclease domain. This large fragment naturally lacks 3’→5’ exonuclease activity.

**Source:** An *E. coli* strain that contains a genetic fusion of the *Bacillus subtilis* DNA polymerase I gene (starting from codon 297 thus lacking the 5’→3’ exonuclease domain), and the gene coding for maltose binding protein (MBP). The fusion protein is purified to near homogeneity and the MBP portion is cleaved off in vitro. The remaining DNA polymerase is purified free of MBP.

**Applications:**
- Random primer labeling
- Second strand cDNA synthesis
- Single da tailing
- Strand displacement DNA synthesis (2)

**Reagents Supplied with Enzyme:**
- 1X NEBuffer 2

**Unit Definition:** One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTPs into acid insoluble material in 30 minutes at 37°C.

**Endonuclease Activity:** Incubation of a 50 µl reaction in NEBuffer 2 containing a minimum of 50 units of *Bsu* DNA Polymerase, Large Fragment 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.

**Notes On Use:** *Bsu* DNA Polymerase, Large Fragment is not suitable for generating blunt ends because it lacks the 3’→5’ exonuclease necessary to remove non-templated 3’ additions.

**Heat Inactivation:** 75°C for 20 minutes.

**References:**

(see other side)
Companion Products Sold Separately:
NEBuffer 2
#B7002S 6.0 ml
Deoxynucleotide Solution Set
#N0446S 25 µmol of each
Deoxynucleotide Solution Mix
#N0447S 8 µmol of each
#N0447L 40 µmol of each