

## Product Specification Sheet

**Product:** Klenow Fragment of DNA Polymerase I, EXONUCLEASE FREE

**Source:** *E.coli* CJ 374

**Code:** MB-108-0100

**Lot #** 5221

**Size:** 100 units

**Physical State:** Liquid (sterile filtered)

**Enzyme Concentration:** 48 units/ $\mu$ l

**Specific Activity:** 13,900 units/mg Protein

**Buffer Composition:** A solution in 50 Potassium Phosphate, 1 mM DTT and 20% (v/v) glycerol, pH 7.1.

**Application(s):** Catalyzes the transfer of dNMP's from dNTPs to the 3'-OH termini of DNA primer complementary to template. Polymerase lacks 3'→5' exonuclease activity while retaining full 5'→3' polymerase activity.

**Reaction Conditions:** Use the supplied 10X Enzyme Dilution Buffer diluted appropriately with Molecular Biology Grade water. The 10X Enzyme Dilution Buffer contains 0.1 M Tris HCl, 0.5 M Potassium Chloride, 0.015 M Magnesium Chloride and 0.1% (w/v) Bovine Serum Albumin (nuclease free), pH 8.0. Any other dilution of enzyme should be made using a buffer containing 0.01 to 0.1% (w/v) nuclease Free BSA.

**Storage Conditions:** Store vial at -20° C or colder. Expiration date is six (6) months from date of opening vial.

**Unit Definition:** One unit incorporates 10 nmoles of total nucleotides into an acid precipitate product with activated DNA as the template in 30 minutes at 37° C (Richardson, et al., **JBC** 239, 222 (1964)).

**Other Enzymatic Activity:** DNase – none detected after incubation of 2  $\mu$ g Lambda DNA with 10 units of DNA Polymerase Klenow fragment (Exonuclease Free) for 1 hour at 37° C in a total volume of 20  $\mu$ l. Endonuclease – No change in the ethidium bromide electrophoresis band pattern following the incubation of 10 units of DNA Polymerase Klenow fragment (Exonuclease Free) with 2  $\mu$ g of pUC18 DNA after 2 hours at 37° C in a total volume of 20  $\mu$ l. RNase – None detected after incubation of 20  $\mu$ g of rRNA with 10 units of DNA Polymerase Klenow fragment (Exonuclease Free) for 2 hours at 37° C in a total volume of 20  $\mu$ l.

**Note:** This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information.