

# DNA Polymerase Alpha

(Human)

## *DNA Polymerase Alpha* (*Homo sapiens*)

**Human DNA polymerase Alpha exhibits both DNA polymerase and primase activities.**

Cat. No.	Size
E1075-01	50 units
E1075-02	200 units

### **1 x Reaction Buffer:**

60 mM Tris-HCl (pH 8.0), 5.0 mM magnesium acetate, 0.3 mg/ml bovine serum albumin, 1.0 mM dithiothreitol, 0.1 mM spermine.

### **Unit Definition:**

One unit is the amount of enzyme required to incorporate 1 nmole of total nucleotide into acid-insoluble form in 60 min at 37°C.

### **Reaction buffer is supplied as:**

**10 x DNA Polymerase Alpha - core:** 600 mM Tris-HCl (pH 8.0), 50 mM magnesium acetate, 10 mM dithiothreitol, 1 mM spermine.

**24 mg/ml bovine serum albumin.**

### **Storage Conditions:**

Long Term: -80°C  
Short Term: -20°C

### **Storage Buffer:**

20 mM Tris-HCl, pH 8.0, 0.25 mM EDTA, 50 mM NaCl, 1 mM β-mercaptoethanol, 0.1% Triton X-100, and 50% (v/v) glycerol.

### **Assay Conditions:**

60 mM Tris-HCl, pH 8.0, 5.0 mM magnesium acetate, 0.3 mg/ml bovine serum albumin, 1.0 mM dithiothreitol, 0.1 mM spermine, 0.05 mM each dCTP, dGTP, dTTP, dATP, (pH 7.0), [ $\alpha$ -<sup>3</sup>H]dATP, and 20 μg activated calf thymus DNA. Incubation is at 37°C for 30 min. in a reaction volume of 50 μl.

### **Quality Control:**

The polymerase is tested for significant polymerase and primase activity. All preparations are assayed for contaminating endonuclease, 3'- and 5'-exonuclease, nonspecific RNase, and single- and double-stranded DNase activities.

### **References:**

1. Podust, V.N., Lavrik, O.I., Nasheuer, H.-P., and Grosse, F. (1989) *FEBS Letters* 245, 14-16