

## BioThermT™ Taq DNA Polymerase

Products	Cat #	Pack Size
BioThermT™ Taq DNA Polymerase	GC-055-0250	250 u
BioThermT™ Taq DNA Polymerase	GC-055-0500	500u
BioThermT™ Taq DNA Polymerase	GC-055-1000	1000 u

### DESCRIPTION

BioThermT™ is a modified DNA Polymerase to facilitate incorporation of Biotin- and Digoxigenin-dUTP in DNA.

### CONCENTRATION

5 units/μl

### UNIT DEFINITION

One unit is defined as the amount of enzyme that incorporates 10 nmoles of dNTPs into acid-insoluble form in 30 minutes at 72°C under the assay conditions (25 mM TAPS (tris-(hydroxy-methyl)-methyl-amino-propanesulfonic acid, sodium salt) pH 9.3 (at 25°C), 50 mM KCl, 2 mM MgCl<sub>2</sub>, 1 mM β-mercaptoethanol) and activated free of charge.

### STORAGE BUFFER

10 mM K-phosphate buffer pH 7.0, 100 mM NaCl, 0.5 mM EDTA, 1 mM DTT, 0.01% Tween 20, 50% glycerol (v/v)

### STORAGE TEMPERATURE

Store BioThermT™ DNA Polymerase below 0°C, preferably at -20°C, in a constant temperature freezer.

### 10X REACTION BUFER

160 mM (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, 670 mM Tris-HCl pH 8.8 (at 25°C), 15 mM MgCl<sub>2</sub>, 0.1% Tween 20

**Cat.No. GC-002-006** 1.5 ml 10x reaction Buffer (contains MgCl<sub>2</sub>)

**Cat.No. GC-002-007** 1.5 ml 10x reaction buffer without MgCl<sub>2</sub> plus 50mM MgCl<sub>2</sub> separately

A 700 bp DNA fragment of a single copy gene was amplified without (lane 1) and with the addition of biotin-11-dUTP using different concentrations (lanes 2-4, MW = molecular weight standard). PCR reactions were run for 40 cycles, 10 sec at 92°C, 15 sec at 65°C, and 2 min at 72°C in a volume of 25 μl, including 10 x amplification buffer (Genecraft), 2 mM MgCl<sub>2</sub>, 5 pmol of each forward and reverse primers, 1 ng of DNA, 1 unit of BioTherm T Taq polymerase (Genecraft) and 0.1 mM of each dNTPs, whereas dTTP was proportionally substituted with increasing concentrations of biotin-11-dUTP: 20% (lane 2), 50% (lane 3), and 70% (lane 4). The incorporation of biotin-11-dUTP correlates with a size shifting of the amplified product. Note, the decrease of PCR efficiency at a proportion of 70% biotin -11-dUTP (lane 4) compared to the lower concentrations.



