

| Products                                   | Cat #       | Pack Size |
|--|-------------|-----------|
| BioThermStar™ Hot Start Taq DNA Polymerase | GC-045-0250 | 250 u     |
| BioThermStar™ Hot Start Taq DNA Polymerase | GC-045-0500 | 500 u     |
| BioThermStar™ Hot Start Taq DNA Polymerase | GC-045-1000 | 1000 u    |

## DESCRIPTION

**BioThermStar™** is a thermostable DNA polymerase purified from the *Thermus aquaticus* strain. BioThermStar™ is a modified form of the enzyme designed for Hot-Start-PCR and **is similar to AmpliTaq Gold™ DNA Polymerase**. It is a highly processive 5'-3' DNA polymerase lacking 3'-5'-exonuclease activity. The enzyme is highly purified and is free of nonspecific endo- or exonucleases.

**By composition and application is this enzyme homologous to the AmpliTaq Gold from ABI.**

## BUFFER pH

**We strongly recommend to use buffers at pH 8.3 with a concentration of 1,5mM MgCl<sub>2</sub>!**

## ACTIVATION



This DNA polymerase **is inactive until incubated 7-10 min at 95°C!!!** These **activation conditions are extremely important !!!** The activation completely prevents nonspecific primer annealing.

## APPLICATION

- **Hot-Start PCR**
- PCR with **high specificity**
- **Real-Time PCR, TaqMan assays**

## CONCENTRATION AND STORAGE TEMPERATURE

5 units/μl , -20°C

## UNIT DEFINITION

One unit of activity is the amount of enzyme required to incorporate 10 nmoles of dNTP into acid-insoluble material in 30 min at 72°C.

## 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)

## 10 x REACTION BUFER

160 mM (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> , 670 mM Tris-HCl pH 8.3 (at 25°C), 15 mM MgCl<sub>2</sub> , 0.1% Tween 20  
The 10x reaction buffer (on request with or without MgCl<sub>2</sub>) is delivered free of charge.  
Please note the difference between BioTherm™ and BioThermStar™ buffers!

**BioThermStar™ Taq DNA Polymerase in a TaqMan assay**

200 nM dNTP's  
 500 nM Primer  
 1.25 u BioTherm Star/0.25 µl  
 3 mM MgCl2  
 300 nM passive reference dye (Rox)  
 100 nM TaqMan-probe

