

DATA QUALITY SHEET



BioThermStar DNA Polymerase

FOR RESEARCH USE ONLY

Cat. GC-045-0100, GC-045-0250, GC-045-0500, GC-045-1000, GC-045-5000

DESCRIPTION	BioThermStar™ is a modified form of BioTherm™ Taq polymerase designed for Hot-Start-PCR. It is a highly processive 5'-3' DNA polymerase lacking 3'-5'-exonuclease activity. It is supplied in an inactive state that has no polymerase activity at ambient temperatures. This prevents extension of nonspecifically annealed primers and primer-dimers formed at low temperatures during PCR setup and the initial PCR cycle. The enzyme is highly purified and is free of nonspecific endo- or exonucleases.
CONCENTRATION	5 units/μl.
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)
REACTION BUFFER	160 mM (NH ₄) ₂ SO ₄ , 670 mM Tris-HCl pH 8.3 (at 25°C), 15 mM MgCl ₂ , 0.1% Tween 20 The 10x reaction buffer (on request with or without MgCl ₂) is delivered free of charge. Please note the difference between BioTherm™ and BioThermStar™ buffers!
STORAGE TEMPERATURE	-20C
ASSOCIATED ACTIVITIES	We strongly recommend to use buffers with pH 8.3. This polymerase is inactive until incubated 8 min at 95°C!!! These activation conditions are extremely important!!! The activation completely prevents nonspecific primer annealing and the formation of primer-dimers during setup. It is also very important to pay great attention to the actual temperature (95°C) inside the tube!!! Hot-Start-PCR;PCR with high specificity Activity, SDS-PAGE purity, absence of endonucleases/nickases and exonucleases.
SHELF LIFE	2 years from date of receipt under proper storage conditions.
FUNCTIONAL ANALYSIS	Tested functionally in a unit activity test.