DATA QUALITY SHEET

AccuTherm DNA Polymerase

FOR RESEARCH USE ONLY

Cat. GC-004-0100, GC-004-0250, GC-004-500, GC-004-1000, GC-004-5000

DESCRIPTION	AccuTherm™ is a thermostable enzyme possessing 5'-3' DNA polymerase and 3'-5' proof reading exonuclease activities. It is isolated from the hyperthermophilic marine archae Pyrococcus furiosis (Pfu). AccuTherm™ provides extremely high fidelity. Whereas the enzyme is not able to amplify long fragments as efficiently as BioTherm™ or KlenTherm™ because of its very high exonuclease activity, a mixture of either KlenTherm™ or BioTherm™ with AccuTherm™ provides more robust synthesis of longer amplification products (Barnes, 1994. Proc. Natl. Acad. Sci. USA 91:2216-2220).
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-(hydroxymethyl)methyl-amino-propane-sulphonic acid, sodium salt) pH 9.3 (at 25°C), 50 mM KCI, 2 mM $MgCl_2$,1 mM ß-mercaptoethanol and activated calf thymus DNA as substrate.
STORAGE BUFFER	10 mM K-phosphate buffer pH 7.0, 100 mM NaCI, 0.5 mM EDTA; 1 mM DTT, 0.01% Tween 20; 50% glycerol (v/v)
5x REACTION BUFFER	83 mM $(NH_4)_2S0_4$, 350 mM Tris-HCI pH 8.8 (at 25°C), 22 mM $MgCl_2$, 0,75% Triton X100, 100 mM KCl
STORAGE TEMPERATURE	Store AccuTherm™ polymerase below 0°C, preferably at -20°C, in a constant temperature freezer
COMPANION PRODUCTS	**Synergy™ DNA polymerase, SynergyN™ DNA polymerase**
SHELF LIFE	**2 years from date of receipt under proper storage conditions.**
FUNCTIONAL ANALYSIS	Tested functionally in a unit activity test.