

DATA QUALITY SHEET



Tth Inorganic Pyrophosphatase

FOR RESEARCH USE ONLY

Cat. GC-006-0100, GC-006-0250, GC-006-0500, GC-006-1000, GC-006-5000

DESCRIPTION	Native, thermostable Tth inorganic pyrophosphatase (pyrophosphate phosphohydrolase: E.C. 3.6.1.1.) is purified from <i>Thermus thermophilus</i> and is a hydrolase. Tth inorganic pyrophosphatase catalyses the conversion of inorganic pyrophosphate to orthophosphate in reactions, where pyrophosphate is accumulated, like DNA synthesis and amplification. Tth inorganic pyrophosphatase provides enhanced polymerisation by removing inhibitive pyrophosphates in reactions.
APPLICATION	<ul style="list-style-type: none">• Enhanced DNA The addition of Tth inorganic pyrophosphatase greatly enhances amplification reactions and provides superior results. The PCR is inhibited by the presence of pyrophosphate even at very low concentrations. This inhibition may be prevented by introducing Tth pyrophosphatase, capable of removing contaminating pyrophosphate, to the reaction mixture. The addition of 1 unit Tth inorganic pyrophosphatase to 10 units of thermostable DNA polymerase (BioTherm™, SubTherm™ or KlenTherm™) may double the level of PCR amplification.• Long fragments Tth inorganic pyrophosphatase enables longer DNA fragments to be processed successfully.• DNA Sequencing Tth inorganic pyrophosphatase is recommended for high-temperature cycle sequencing with thermostable DNA polymerases (BioTherm™ or KlenTherm™).• In vitro mutagenesis Tth inorganic pyrophosphatase provides increased fidelity.
CONCENTRATION	5 units/μl
UNIT DEFINITION	One unit is defined as the amount of enzyme which is required to convert 1 μmole of pyrophosphate into 2 μmoles of orthophosphate in one minute at 75°C under the following conditions: 1 mM K ₄ P ₂ O ₇ , 2 mM MgC ₂ , 50 mM Tris-HCl pH 9.0 (at 75°C).
STORAGE TEMPERATURE	Store at -20°C in a constant temperature freezer.
QUALITY CONTROL	ATP-ase and P-Klen are not detectable.
FUNCTIONAL ANALYSIS	Tested functionally in a unit activity test.