

FISHER MOLECULAR BIOLOGY

FS-T-541 FAST HOT START DNA POLYMERASE

SIZE: 500 units

DESCRIPTION:

AmpliTherm Hot Start is a thermostable DNA polymerase purified from the *Thermus aquaticus* strain in accordance with the procedures developed by Kaledin for the isolation from thermophilic bacteria of thermostable enzymes processing DNA polymerase activity.

AmpliTherm Hot Start is a modified form of the enzyme designed for Hot-Start-PCR.

It is a highly processive 5'-3' DNA Polymerase lacking 3'-5'-exonuclease activity. The enzyme is highly purified and is free of non-specific endo- or exonucleases.

An advantage of AmpliTherm Hot Start is the absence of additional heating step for polymerase activation. Heat activation of enzyme occurs during the first denaturation step. An active complex of AmpliTherm Hot Start dissociates automatically over +70°C, allowing activating DNA polymerase.

CONCENTRATION:

5 units/μl

UNIT DEFINITION:

One unit is defined as the amount of enzyme that incorporates 10 nmoles of dNTP's into acid-insoluble form in 30 minutes at 74°C under assay conditions: 25mM TAPS pH 9.3 at 25°C; 50mM KCL; 2mM MgCl₂; 1mM β-mercaptoethanol; 200μM each dATP,dGT,dTTP and 100μM dCTP (a mix of unlabeled and μ-[³²P]-labeled); 12.5μg activated salmon sperm DNA in the final volume of 50μl

STORAGE BUFFER:

20mM Tris-HCL (pH 8.0);100mM KCL;0.1mM EDTA; 1mM DTT; 50% glycerol,0.5% Nonidet P-40; 0.5% Tween-20

STORAGE TEMPERATURE: -20°C

10 X REACTION BUFFER:

NH₄-buffer: 166mM (NH₄)₂SO₄;670mM Tris-HCL (pH 8.8 at 25°C); 0.1% Tween-20. *Can be stored for at least 6 months at +4°C.*

Please note that the 10x reaction buffer is delivered without MgCl₂.

We recommend to use a MgCl₂-concentration of 2,5 mM for PCR at genomic DNA.

APPLICATIONS:

- High specific amplification
- Multiplex amplification - **Highly recommended**
- High sensitivity applications
- "Real-time" - PCR

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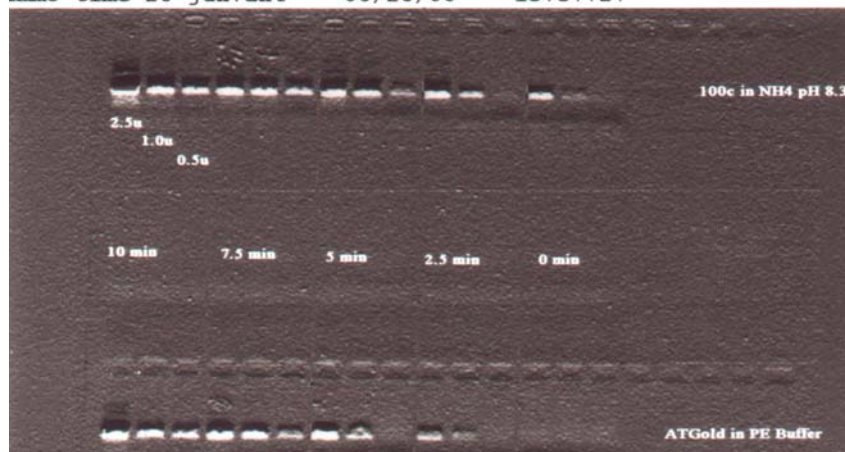
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QUALITY CONTROL:

Activity, SDS-PAGE purity, absence of endonucleases/nickases and exonucleases

Comparison of AmpliTherm Hot Start with AmpliTaqGold

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⇐ AmpliTherm Hot Start
⇐ units

⇐ pre-heating

⇐ AmpliTaqGold

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