WATCHMAKER GENOMICS

STELLARTAQ DNA POLYMERASE

StellarTaq™ DNA Polymerase (DNAP) is engineered for extreme inhibitor tolerance, speed, and specificity. The polymerase catalyzes 5' → 3' DNA synthesis, has 5' → 3' exonuclease activity, and is deficient in 3' → 5' exonuclease activity making it suitable for probe digestion. It amplifies uracil-containing templates, incorporates modified bases, and performs A-tailing on DNA products. Available in hot start, non-hot start, and glycerol-free formats.

KEY FEATURES & BENEFITS

- **Extreme inhibitor tolerance** offers robust amplification across a range of clinically relevant sample types, including urine, blood, sputum, and bile
- **High speed** enables fast PCR applications
- Hot start mechanism ensures **high specificity**
- Custom formats, including with and without hot start, high concentrate, and **glycerol-free** to support lyophilization

SPECIFICATIONS

- Protein Purity Assay: >97%
- dsDNA Exonuclease Assay[1]: <1% released
- ssDNA Exonuclease Assay[1]: <1% released
- DNA Contamination Assay (*E. coli*, mammalian, library): <10 copies
- Phosphatase Contamination Assay[1]: <1% released
- Endonuclease Contamination Assay[1]: Not detectable
- RNase Contamination Assay[1]: Not detectable

APPLICATIONS

- Pathogen detection, including infectious diseases
- PCR in the presence of inhibitors
- RT-qPCR
- Fast PCR
- PCR amplification of DNA fragments ≤5 kb
- Probe and intercalating dye-based qPCR
- PCR applications where specificity is important

[1]As assessed using 50 U of protein input per assay

For research use only. Not for use in diagnostic procedures.

FAST POLYMERIZATION AND EXTREME INHIBITOR TOLERANCE

Inhibitors — ubiquitous in biological samples — can interfere with amplification, leading to unreliable results and false negatives. **StellarTaq** delivers leading inhibitor-tolerance paired with fast polymerization speeds for rapid, accurate, and reproducible results.

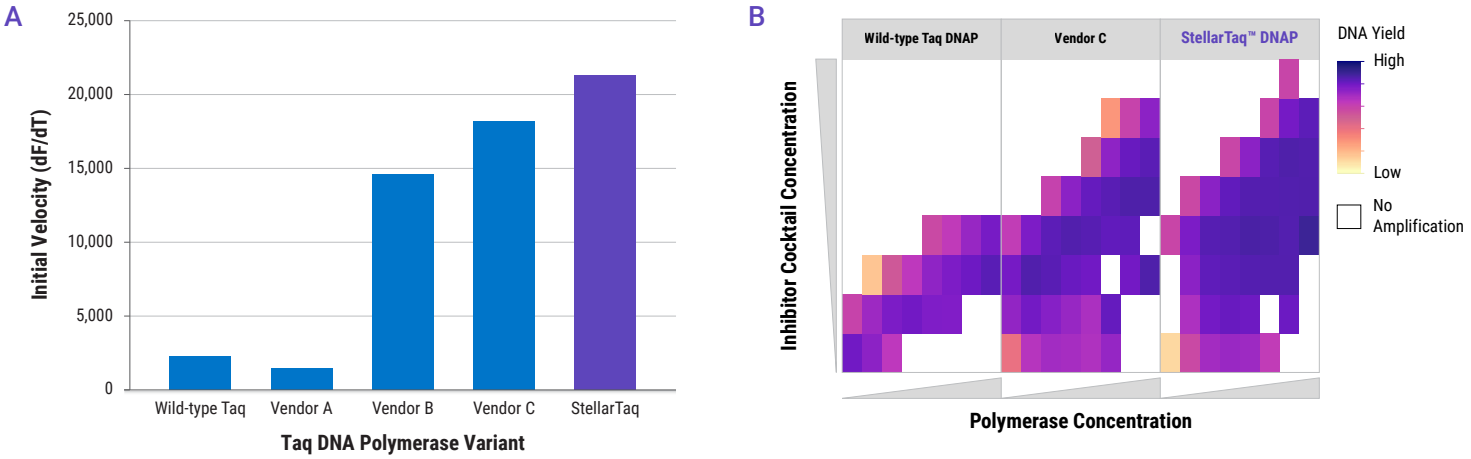

FIGURE 1. Fast amplification in the presence of inhibitors. StellarTaq DNA Polymerase (DNAP), Wild-type Taq DNAP, and a variety of engineered Taq DNAPs (Vendors A, B, and C) were evaluated for **(A)** initial velocity — taken as a representation of polymerization speed — wherein a pre-primed, defined ssDNA template was extended by each polymerase at 72°C and intercalating dye fluorescence was measured over time. **(B)** Inhibitor tolerance was evaluated with probe-based qPCR in the presence of increasing inhibitor cocktail concentrations. StellarTaq delivered the highest polymerization speed while also retaining robust DNA amplification in the presence of inhibitors.

PRODUCT	0.25 kU[1]	1 kU[1]	1.5 kU[1]	7 kU[1]
StellarTaq Hot Start DNA Polymerase (5 U/µL)	7K0117-50UL	7K0117-200UL		
StellarTaq Hot Start DNA Polymerase – Glycerol-Free (30 U/µL)			7K0121-50UL	
StellarTaq Hot Start DNA Polymerase – Glycerol-Free (140 U/µL)				7K0120-50UL
StellarTaq DNA Polymerase (5 U/µL)	7K0116-50UL	7K0116-200UL		
StellarTaq DNA Polymerase – Glycerol-Free (140 U/µL)				7K0118-50UL

[1]One unit of StellarTaq DNA Polymerase incorporates 16 nmol of dNTPs into a DNA template in 30 minutes at 72°C.

Contact sales@watchmakergenomics.com
or visit watchmakergenomics.com/StellarTaq to learn more.

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