

ChemStart™ DNA Polymerase

Robust Hot-Start PCR Performance for Microbial Screening

ChemStart™ DNA Polymerase is a chemically modified form of *Taq* DNA Polymerase which requires a heat-activation step prior to PCR. Upon thermal activation, a polymerase modifier is permanently released, providing for rapid enzyme activation. The resulting hot start PCR enzyme delivers unparalleled sensitivity, yield and specificity compared with conventional DNA polymerase technology.

ChemStart™ DNA Polymerase is a high-performance chemically-mediated hot start preparation which specifically circumvents the need for *Taq* monoclonal antibodies and therefore reduces the possibility of biological contamination. In addition, a proprietary enzyme purification process removes bacterial DNA sequences, making ChemStart™ an ideal choice for microbial screening, pathogen detection and other assays in which the reduction of false positives is essential.

Applications

- Hot-Start PCR
- Conventional PCR
- Low Copy Number PCR
- Probe-based qPCR
- Microbial Screening
- Pathogen Detection

Assay Flexibility and Accuracy

High-performance PCR across a wide range of DNA templates including low-copy number viral and bacterial targets.

Robust Amplification

Provides high yields with amplicons up to 5 kb

Convenience of Minimal Optimization

Efficient 5x ChemStart™ buffer formulation includes optimal levels of $MgCl_2$ for maximum PCR efficiency

Versatility

ChemStart™ DNA Polymerase contains low residual host *E. coli* DNA and is compatible with conventional PCR and Probe-based qPCR

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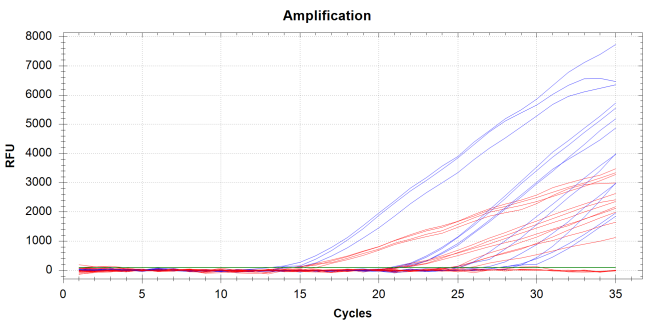


Fig 1. Comparative qPCR Analysis using low-copy number VZV viral DNA
ChemStart™ DNA Polymerase (blue) and competitor A (red) in low copy number TaqMan qPCR of VZV viral DNA. ChemStart™ DNA Polymerase exhibits improved performance across multiple template dilutions and this includes higher fluorescence and earlier Ct values.

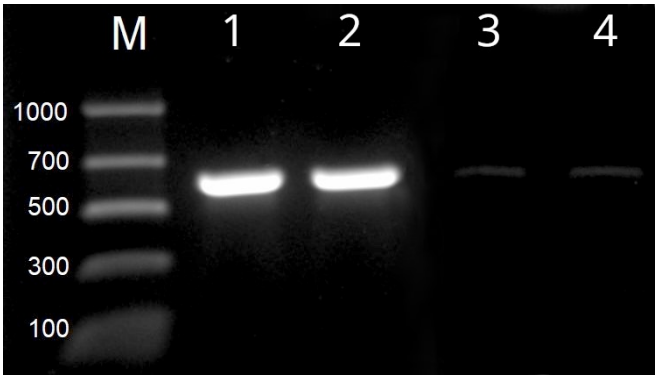


Fig 2. Inactivity at ambient temperature
Lanes 1 & 2: Prior to PCR, ChemStart™ DNA Polymerase was activated by initial heating at 95° C for 10 minutes.
Lanes 3 & 4: No heat activation resulting in poor DNA yield.

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Product	Pack Size	Catalog No.
ChemStart ™ DNA Polymerase	500 U	AZ-1405
ChemStart ™ DNA Polymerase	1000 U	AZ-1410
ChemStart ™ DNA Polymerase	5000 U	AZ-1450

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