

Hot-Start Fidelity Polymerase

- High specificity and fidelity: Chemically-modified Hot-Start *Pfu* Polymerase
- Reduced non-specific amplification and primer dimer formation
- Inhibit 3'-5' exonuclease activities at ambient temperature
: Convenient PCR mixture setup at room temperature
- High-yield amplification of challenging targets (ex. GC-rich)



Description

HelixAmp™ Hot-Start Fidelity Polymerase is a hot-start formulation of a modified *Pfu* DNA Polymerase, meticulously optimized for robust, high-fidelity, and specific amplification of DNA fragments up to 5kb in length. This high-fidelity enzyme demonstrates a 2.5-fold increase in fidelity compared to conventional *Pfu* DNA polymerase and 100-fold higher than *Taq* DNA polymerase in accuracy.

Additionally, the supplied **TuneUp™ Solution** is for the challenging amplifications of templates with high GC content or structural complexities, such as repeat sequences.

Ordering Information

Product

- **Name:** HelixAmp™ Hot-Start Fidelity Polymerase
- **Cat. No.:** HSF250
- **Size:** 250 units

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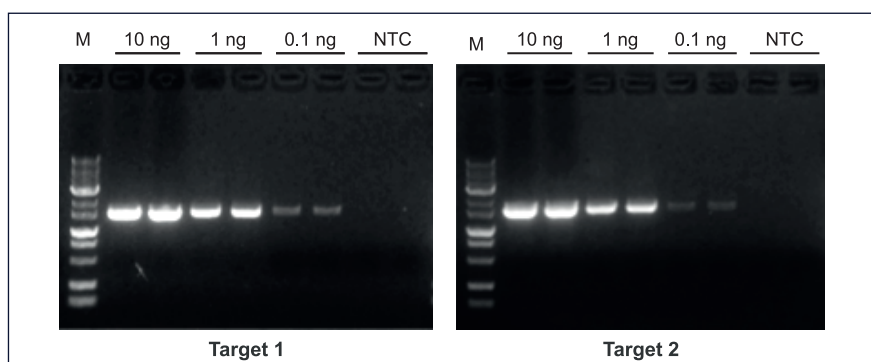
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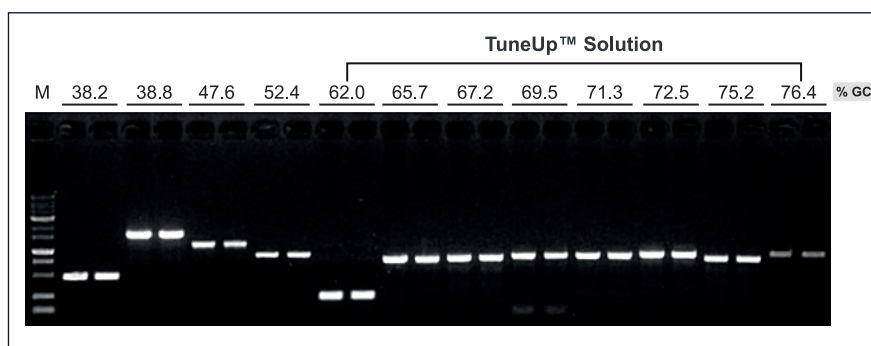
Experimental Data



- M: HelixRuler™ 1kb Plus DNA Ladder
- Target 1: 1498 bp
- Target 2: 1550 bp

Fig. The Sensitivity of HelixAmp™ Hot-Start Fidelity Polymerase

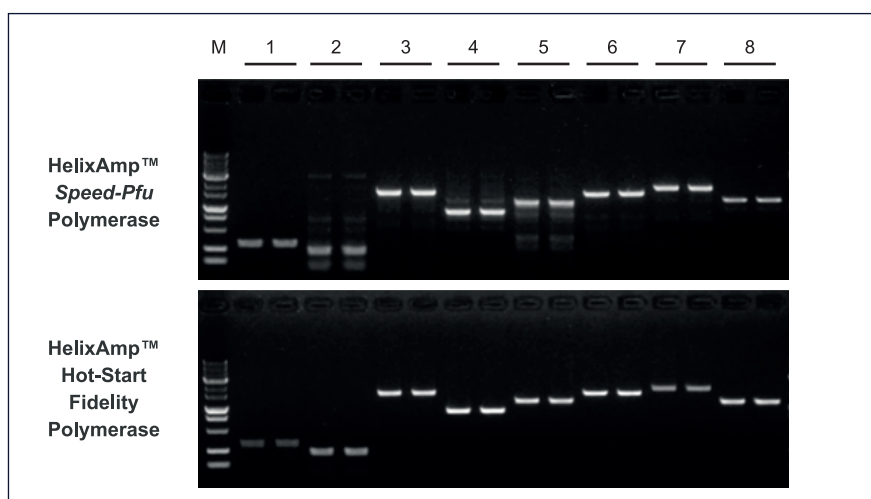
Amplification was conducted from serially diluted human genomic DNA. The PCR analysis was carried out at 95°C/20 seconds, and 72°C/45 seconds(35 cycles).



- M: HelixRuler™ 1kb Plus DNA Ladder

Fig. Amplification of GC-rich targets

12 targets with varying GC contents were amplified using **HelixAmp™ Hot-Start Fidelity Polymerase**. PCR reaction was carried out using human genomic DNA at 95°C/20 seconds, and 72°C/30 seconds(35 cycles). The result shows that the enzyme can amplify targets regardless of GC content. Applying TuneUp™ Solution when amplifying GC-rich targets is beneficial for amplification.



- M: HelixRuler™ 1kb Plus DNA Ladder
- 1: Target 1(323bp)
- 2: Target 2(237bp)
- 3: Target 3(1550bp)
- 4: Target 4(850bp)
- 5: Target 5(1159bp)
- 6: Target 6(1498bp)
- 7: Target 7(1770bp)
- 8: Target 8(1208bp)

Fig. Comparison of specificity

Comparative evaluations were carried out between **HelixAmp™ Hot-Start Fidelity Polymerase** and **HelixAmp™ Speed-Pfu Polymerase**. **HelixAmp™ Hot-Start Fidelity Polymerase** demonstrated reduced occurrences of non-specific amplifications and enhanced specificity.