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Highest confidence in sequence accuracy

Platinum SuperFi II DNA Polymerase

Invitrogen™ Platinum™ SuperFi™ II DNA Polymerase is a hot-start, engineered proofreading DNA polymerase. Its fidelity is >300x that of *Taq* DNA polymerase and its buffer is specially formulated for primer annealing at 60°C.

Highlights

- **Exceptional accuracy**—greater than 300x *Taq* fidelity
- **Simplified workflow**—no need for a primer melting temperature (T_m) calculator
- **Increased PCR success**—robust amplification of GC-rich targets, DNA of suboptimal purity, and long sequences
- **Improved automation**—high specificity and benchtop stability for 24 hours after reaction setup

>300x *Taq* DNA polymerase fidelity: for preserving DNA sequence accuracy

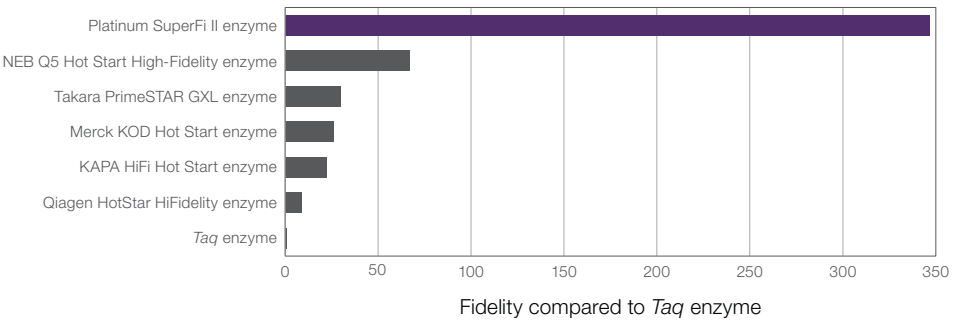

Figure 1. Fidelity comparison across commercially available enzymes relative to the *Taq* enzyme. 3.9 kb PCR amplicons obtained using different DNA polymerases were fragmented with a MuA transposase. Unique molecular identifiers (UMI) of 12 random nucleotides were introduced during fragmentation to tag each product individually. After next-generation sequencing, reads from the same UMI family were aligned to call errors. Errors were identified only when present in all reads in the UMI family; otherwise they were discarded as sequencing errors. The fidelity values were normalized to *Taq* polymerase fidelity.

Available application notes

- Site-directed mutagenesis
- Direct PCR with blood
- Colony PCR
- Multiplex PCR

Download the application notes at **thermofisher.com/platinumsuperfi**

Applications

- Cloning, subcloning, and site-directed mutagenesis
- Long-range PCR (20–40 kb)
- Template generation for sequencing
- Amplification of DNA with suboptimal purity
- High-throughput PCR
- GC-rich PCR

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Robustness, versatility, and simplicity offered by the enzyme

Universal annealing temperature at 60°C: Calculation of T_m for the annealing step not required

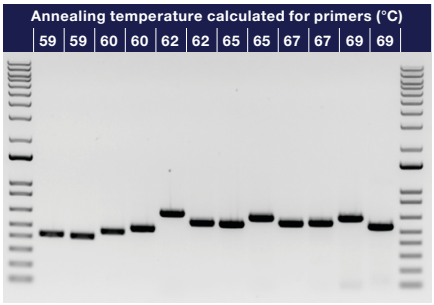

Figure 2. PCR amplification with high specificity and yield following a universal annealing temperature at 60°C. Primer sets with varying annealing temperatures were used to amplify 12 targets from human genomic DNA (gDNA) with a 60°C annealing temperature.

Benchtop stability: For high-throughput applications

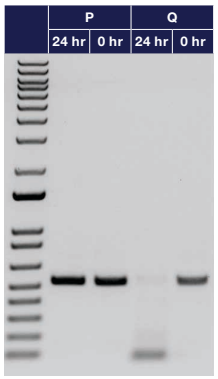

Figure 4. Stability of assembled reactions at room temperature. A 0.5 kb fragment was amplified by setting up reactions and leaving them at room temperature for 0 hr and 24 hr before PCR. Results using Platinum SuperFi II DNA Polymerase (P) and Q5™ Hot Start High-Fidelity DNA Polymerase from NEB (Q) are shown.

Universal PCR protocol: Co-cycling of multiple assays

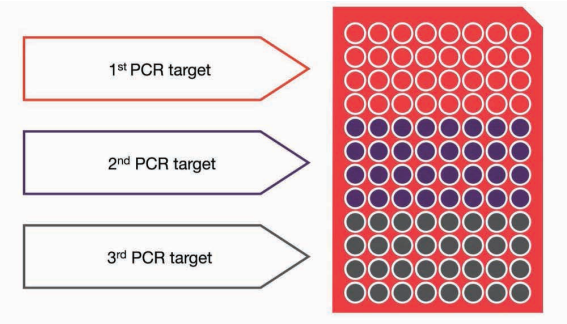

Figure 3. Time savings and assay co-cycling enabled by universal PCR protocol. Multiple PCR assays can be cycled together using one protocol with a universal primer annealing temperature and the extension time selected for the longest amplicon.

Long-range PCR: Amplification of 20–40 kb sequences

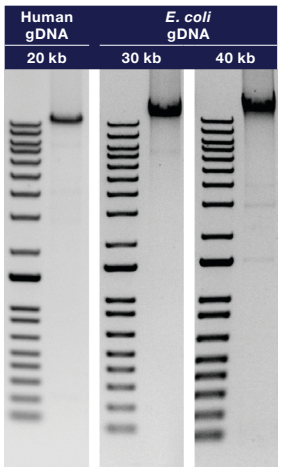

Figure 5. Amplification of long fragments. A 20 kb target from human gDNA and 30–40 kb targets from *E. coli* gDNA were successfully amplified by Platinum SuperFi II DNA Polymerase.

Ordering information

Product	Quantity	Cat. No.
Platinum SuperFi II DNA Polymerase	100 reactions	12361010
	500 reactions	12361050
	2,500 reactions	12361250
Platinum SuperFi II PCR Master Mix	100 reactions	12368010
	500 reactions	12368050
	2,500 reactions	12368250
Platinum SuperFi II Green PCR Master Mix	100 reactions	12369010
	500 reactions	12369050
	2,500 reactions	12369250

Find more data at **thermofisher.com/platinumsuperfi**

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