

# Platinum SuperFi DNA Polymerase

## >100x *Taq* fidelity for 100% confidence

Invitrogen™ Platinum™ SuperFi™ DNA Polymerase is a proofreading DNA polymerase that combines exceptional fidelity with trusted Platinum™ hot-start technology, offering the highest success in PCR. Featuring greater than 100x *Taq* fidelity, Platinum SuperFi DNA Polymerase is ideally suited for cloning, mutagenesis, and other applications benefiting from superior sequence accuracy.

### Highlights:

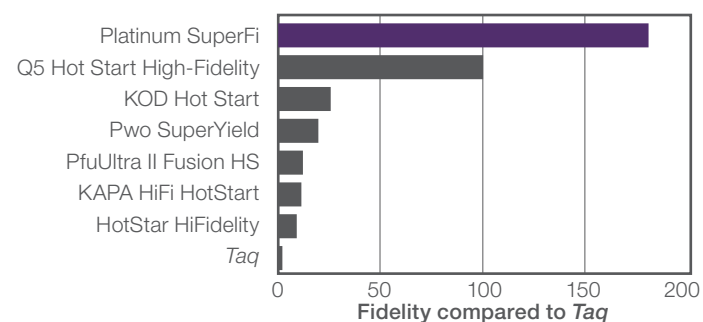
- Exceptional >100x *Taq* fidelity
- High specificity and increased yields with Platinum hot-start technology
- Robust amplification of difficult-to-amplify targets, including those of suboptimal purity or with greater than 65% GC content
- Convenient workflow with room-temperature reaction setup and direct gel loading with green buffer formats

### Applications:

- High-fidelity PCR
- Cloning and subcloning
- Site-directed mutagenesis
- Amplification of GC-rich templates
- Template generation for sequencing
- High-throughput PCR
- Amplification of samples with suboptimal purity
- Long PCR (up to 20 kb)
- Fast PCR

### High fidelity

Platinum SuperFi DNA Polymerase provides the highest level of confidence for preserving DNA sequence accuracy with its extremely low error rate. The relative fidelity values of Platinum SuperFi DNA Polymerase and other DNA polymerases were determined using next-generation sequencing. The relative fidelity of Platinum SuperFi DNA Polymerase was calculated to be greater than 100x that of *Taq* DNA polymerase.



**Figure 1. Relative fidelity values of different DNA polymerases.**

Polymerase fidelity was measured by next-generation sequencing. The background level of experimental errors was estimated from PCR-free library sequencing data. The polymerase fidelities were normalized to *Taq* polymerase. It is difficult to determine fidelity values greater than 100x *Taq* in a statistically significant manner because the extremely low error rates are at the background level.

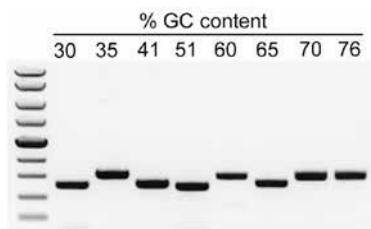
## Robust amplification of versatile targets

### High specificity and yield

Platinum hot-start technology is based on proprietary antibodies that inhibit enzyme activity until the initial PCR denaturation step, preventing nonspecific amplification and primer degradation. Hot-start PCR results in a greater yield of the target amplicon with the added convenience of room-temperature PCR setup.

### Enhanced amplification of GC-rich targets

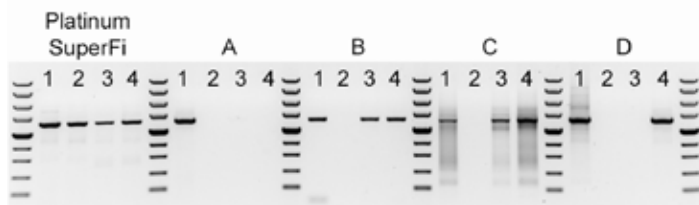
All Platinum SuperFi DNA Polymerase formats are supplied with a separate vial of Invitrogen™ SuperFi™ GC Enhancer formulated for specific amplification and improved yields of targets with high-GC content.



**Figure 2. Platinum SuperFi DNA Polymerase provides high specificity and robust yields.** Seven fragments, 500 to 800 bp in length and of varying GC content, were amplified from 50 ng of human gDNA. SuperFi GC Enhancer was added for 70% and 76% GC fragments.

### Resistance to inhibitors

Platinum SuperFi DNA Polymerase is engineered with a DNA-binding domain resulting in high processivity and increased resistance to common PCR inhibitors such as heparin, xylan, and humic acid.



**Figure 3. Resistance to inhibitors.** Amplification of a 2 kb human gDNA fragment using Platinum SuperFi DNA Polymerase or competitor high-fidelity DNA polymerases (A-D) in reaction mixtures containing 1–no inhibitor, 2–heparin (0.15 µg/µL), 3–xylan (0.5 µg/µL), or 4–humic acid (0.15 µg/µL).

Find out more at [thermofisher.com/platinumsuperfi](http://thermofisher.com/platinumsuperfi)



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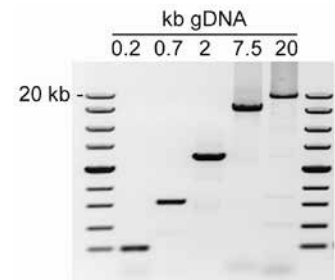
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### Broad range of amplicon lengths up to 20 kb

The high processivity of Platinum SuperFi DNA Polymerase also enables fast cycling protocols and amplification of long targets up to 20 kb.



**Figure 4. Versatility across a broad range of amplicon lengths.** Amplification of human gDNA fragments ranging from 0.2 to 20 kb with Platinum SuperFi DNA Polymerase.

### Ordering information

Product	Size	Cat. No.
Platinum SuperFi DNA Polymerase	100 units	12351-010
	500 units	12351-050
	5 x 500 units	12351-250
Platinum SuperFi Green DNA Polymerase	100 units	12357-010
	500 units	12357-050
	5 x 500 units	12357-250
Platinum SuperFi PCR Master Mix	100 reactions	12358-010
	500 reactions	12358-050
	5 x 500 reactions	12358-250
Platinum SuperFi Green PCR Master Mix	100 reactions	12359-010
	500 reactions	12359-050
	5 x 500 reactions	12359-250
SuperFi Buffer	4 x 1.25 mL	12355-005
SuperFi Green Buffer	4 x 1.25 mL	12356-005