

# PFU-50 High Fidelity Polymerase

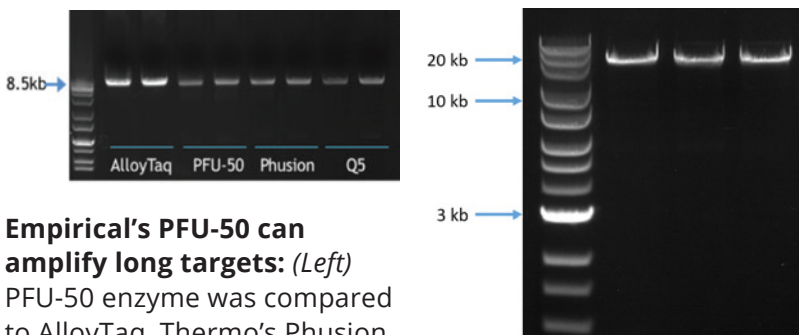
Enzymes and Reagents

PCR | qPCR | RT | Kits | Oligonucleotides

## Performance

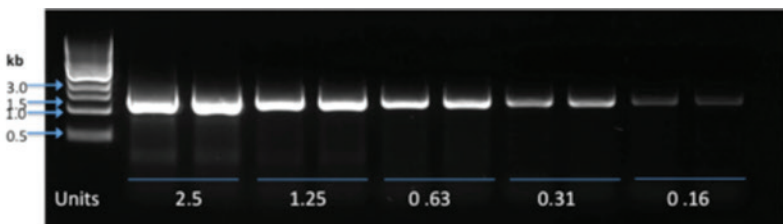
**Empirical Bioscience's PFU-50 Polymerase** is a genetically modified *Pyrococcus furiosus* enzyme that also contains inherent 3'-5' proofreading capability which increase the fidelity of the enzyme to 50X that of Taq DNA Polymerase.

Due to its increased processivity and fidelity, PFU-50 High Fidelity Polymerase is ideal for long-range PCR amplification, GC rich templates, cloning, mutagenesis, sequencing, and fast PCR due to shorter elongation time requirements. PFU-50 is an extremely stable enzyme at high temperatures and is free of contaminating endonucleases and exonucleases.



### Empirical's PFU-50 can amplify long targets: (Left)

PFU-50 enzyme was compared to AlloyTaq, Thermo's Phusion, and NEB's Q5 enzymes by PCR of a 8.5kb fragment from the human beta globin gene. (Right) PFU-50 was used to amplify an 18.3kb fragment from the Human Albumin gene. The experiment was performed in triplicate and analyzed on a 0.4% agarose gel.



**Empirical's PFU-50 is sensitive:** Decreasing units of PFU-50 enzyme were used to amplify a 1.3kb fragment from the human beta globin gene.

## Features

- 50X Fidelity of Taq
- Increased Processivity and Sensitivity

## Applications:

- High fidelity PCR
- Long amplification up to 8.5kb
- GC rich templates
- Fast PCR (30sec/kb)

Item Number	Units
PFU-50-100	100
PFU-50-200	200
PFU-50-500	500
PFU-50-1000	1000
PFU-50-5000	5000

## Storage and Handling:

Store at -20°C upon arrival.

## Related Products

- EasyLoad Low Range DNA Ladder
- EasyLoad Mid Range DNA Ladder
- EasyLoad High Range DNA Ladder
- UltraPure dNTP Solution Mix, 10mM each
- UltraPure dNTP Solution Mix, 100mM each
- 6x MeanGreen Loading Dye



Observe the Difference

TO ORDER, REQUEST SAMPLES OR FOR MORE INFORMATION, CONTACT:

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# Empirical Bioscience Product Line

Taq DNA Polymerases	
ITEM NO.	DESCRIPTION
TP-NB-100	Taq DNA Polymerase without Buffer, 100 Units
TP-NB-500	
TP-NB-1000	
TP-NM-100	Taq DNA Polymerase with 10X Reaction (no MgCl <sub>2</sub> ) Buffer
TP-NM-500	
TP-NM-1000	
TP-MG-100	Taq DNA Polymerase with 10X Reaction (MgCl <sub>2</sub> ) Buffer
TP-MG-500	
TP-MG-1000	

FlashTaq™ DNA Polymerases	
ITEM NO.	DESCRIPTION
FT-NB-100	FlashTaq™ DNA Polymerase without Buffer
FT-NB-500	
FT-NB-1000	
FT-NM-100	FlashTaq™ DNA Polymerase with 10X Reaction (no MgCl <sub>2</sub> ) Buffer
FT-NM-500	
FT-NM-1000	
FT-MG-100	FlashTaq™ DNA Polymerase with 10X Reaction (MgCl <sub>2</sub> ) Buffer
FT-MG-500	
FT-MG-1000	

Integrity DNA Polymerases™	
ITEM NO.	DESCRIPTION
HF-RB-MG-100	Integrity High-Fidelity DNA Polymerase™ with 10X Reaction Buffer
HF-RB-MG-200	
HF-RB-MG-500	
HF-RB-MG-1000	

PFU-50 High Fidelity Polymerase	
ITEM NO.	DESCRIPTION
PFU-50-100	PFU-50 High Fidelity Polymerase (50X Taq) with Reaction Buffer
PFU-50-200	
PFU-50-500	
PFU-50-1000	
PFU-50-5000	

dNTP Solutions	
ITEM NO.	DESCRIPTION
dNTP-1mL	UltraPure Deoxynucleotide Solution Mix, 10mM
dNTP-100-S0.2mL	UltraPure Deoxynucleotide Solution Set, 100mM
dNTP-100-S1mL	
dNTP-100-S5mL	

Taq Master Mixes	
ITEM NO.	DESCRIPTION
TP-MM-100	Taq 2X Master Mix
TP-MM-250	
TP-MM-500	
TP-MM-1000	
TP-MM-2500	
TP-MMWD-100	Taq 2X MeanGreen™ Master Mix
TP-MMWD-250	
TP-MMWD-500	
TP-MMWD-1000	
TP-MMWD-2500	5X Multiplex Master Mix
TP-MP-100	
TP-MP-500	
TP-MP-1000	
TP-MP-GCE-100	Multiplex Master Mix with GC Enhancer
TP-MP-GCE-500	

FlashTaq™ Master Mixes	
ITEM NO.	DESCRIPTION
FT-MM-100	FlashTaq™ 2X Master Mix
FT-MM-250	
FT-MM-500	
FT-MM-1000	
FT-MMWD-100	FlashTaq™ 2X MeanGreen™ Master Mix
FT-MMWD-250	
FT-MMWD-500	
FT-MMWD-1000	

EasyLoadDNA Ladders™	
ITEM NO.	DESCRIPTION
LA-EL-LR-100	EasyLoad™ Low-Range DNA Ladder, 100 Lanes
LA-EL-MR-100	EasyLoad™ Mid-Range DNA Ladder, 100 Lanes
LA-EL-HR-100	EasyLoad™ High-Range DNA Ladder, 100 Lanes

AlloyTaq Blends™	
ITEM NO.	DESCRIPTION
AT-HF-RB-100	AlloyTaq™ High-Fidelity Blend with 10X Reaction Buffer
AT-HF-RB-200	
AT-HF-RB-500	
AT-HF-RB-1000	

GC Enhancers	
ITEM NO.	DESCRIPTION
GCE-10-100	10X GC Enhancer
GCE-10-500	

MeanGreen™ Buffer	
ITEM NO.	DESCRIPTION
RB-WD-20mL	5X MeanGreen™ Buffer (20 x 1mL)

MeanGreen™ Loading Dye	
ITEM NO.	DESCRIPTION
LD-MG-4mL	6X MeanGreen™ Loading Dye

rEVALution™ qPCR Mixes	
ITEM NO.	DESCRIPTION
RQ-100	rEVALution 2X™ qPCR Master Mix with separate ROX®
RQ-500	
RQ-1000	
RQ-2500	

2x qPCR Probe Master Mix™	
ITEM NO.	DESCRIPTION
QP-MM-100	2x qPCR Probe Master Mix with separate ROX®
QP-MM-500	
QP-MM-1000	
QP-MM-2500	

RTScript™	
ITEM NO.	DESCRIPTION
RT-CSK-100	Reverse Transcriptase cDNA Synthesis Kit

Kits	
ITEM NO.	DESCRIPTION
PMK-50	Plasmid Mini-Prep Kit
PMK-250	
PPK-50	PCR Purification Kit
PPK-250	
AGEK-50	Agarose Gel Extraction Kit
AGEK-250	

Oligonucleotides	
ITEM NO.	DESCRIPTION
RTG-PR	Ready to Go™ Primers