EUROMEDEX

Pfu DNA Polymerase

Cat. No.	Pack Size	Conc.
EUA00503	500 U	5 U/µl
EUA00504	1000 U	5 U/µl
EUA00505	2500 U	5 U/µl

Storage:

Store at -20°C, shipping at room temperature.

Reagents Provided:

- **Pfu DNA Polymerase in Storage Buffer:** 20 mM Tris-HCl (pH 8.0), 1 mM DTT, 0.1 mM EDTA, 100 mM KCl, 0.5% Nonidet P40, 0.5% Tween 20 and 50% glycerol.
- **10x Pfu Buffer**: 200 mM Tris-HCl (pH 8.8 at 25°C), 100 mM KCl, 100 mM $(NH_4)_2SO_4$, 1% Triton X-100, 1 mg/ml BSA.
- **10x Pfu Buffer with $MgSO_4$:** 200 mM Tris-HCl (pH 8.8 at 25°C), 100 mM KCl, 100 mM $(NH_4)_2SO_4$, 1% Triton X-100, 1 mg/ml BSA, 20 mM $MgSO_4$.
- **25 mM $MgSO_4$ Solution**

Description:

Pfu DNA Polymerase has been *purified* from the Recombinant *E. coli* strain with cloned gene encoding *Pyrococcus furiosus* DNA polymerase.

In addition to 5´→3´ DNA polymerase activity, Pfu DNA Polymerase also possesses 3´→5´ exonuclease (proof-reading) activity.

Pfu DNA Polymerase exhibits the lowest error rate of any thermostable DNA polymerase studied. It is up to ten-fold more accurate than normal Taq DNA polymerase. Consequently, Pfu DNA Polymerase is useful for polymerization reactions requiring high-fidelity synthesis.

Quality data:

Activity and stability tested at 20, 30 and 40 cycles of PCR reactions at 95°C.

Tested for the absence of humanDNA contamination by PCR with Alu-specific primers.

Unit definition:

One unit of the enzyme catalyzes the incorporation of 10 nanomoles of deoxyribo-nucleotides into a polynucleotide fraction in 30 min at 70°C.

Recommended PCR reaction mix:

Component	Quantity
Pfu (5 U/µl)	1.25-2.5 U
10x Pfu Buffer (**or** with $MgSO_4$)	5 µl (1x)
25 mM $MgSO_4$	3-5 µl (1.5-2.5 mM)
10 mM dNTP mix	1 µl (200 µM)
Primer Forward	0.3 -1 µM
Primer Reverse	0.3 -1 µM
DNA template	1-100 ng/µl
H_2O PCR grade	Up to 50 µl
Total	**50 µl**

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Recommended PCR cycles:

Cycle step	Temp.	Time	Cycles
Initial denaturation	95ºC	3-5 min	1
Denaturation	95ºC	30-60 s	26-35
Annealing	50-68ºC	30-60 s	
Elongation	72ºC	1-4 min	
Final elongation	72ºC	5-10 min	1

IMPORTANT: Annealing temperature should be 2-6ºC lower than the primer melting temperature.

Safety warnings and precautions:

This product is designed for research purposes and *in vitro* use only. According to common laboratory safety practice, it is recommended to wear protective clothing, gloves and safety glasses.
Some applications this product is used in may require a license which is not provided by the purchase of this product. Users should obtain the license if required.

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