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EpiQuik Pfu DNA Polymerase

(Catalog No. R12013)

Description

EpiQuik 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, EpiQuik Pfu DNA Polymerase also possesses 3´→5´ exonuclease (proof-reading) activity. EpiQuik 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, EpiQuik Pfu DNA Polymerase is useful for polymerization reactions requiring high-fidelity synthesis.

Concentration

5 units/µl (One unit of the enzyme catalyzes the incorporation of 10 nanomoles of deoxyribonucleotides into a polynucleotide fraction in 30 min at 70°C).

Composition

- EpiQuik 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 (NH4)2SO4, 1% Triton X-100, 1 mg/ml BSA
- 10x Pfu Buffer with MgSO4: 200 mM Tris-HCl (pH 8.8 at 25°C), 100 mM KCl, 100 mM (NH4)2SO4, 1% Triton X-100, 1 mg/ml BSA, 20 mM MgSO4
- 25 mM MgSO4 Solution

Quality Data

Activity and stability tested at 20, 30 and 40 cycles of PCR reactions at 95°C.Tested for the absence of human DNA contamination by PCR with Alu-specific primers.

Recommended PCR Reaction Mix

Component	Quantity
EpiQuik Pfu (5 U/µl)	1.25-2.5 U
10x Pfu Buffer (or with MgSO4)	5 µl (1x)
25 mM MgSO4	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
H2O PCR grade	Up to 50 µl
Total	50 µl

Recommended PCR Cycles

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

This product is for research purposes only. Not intended for use in diagnostic procedures.

IMPORTANT: Annealing temperature should be 2-6°C 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. Please refer to www.epigentek.com for Material Safety Data Sheet of the product. 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.

Applications
- Close to ten times more accurate than normal DNA polymerase
- Produces blunt-ended amplification products to be used for cloning
- Remains active even after incubating 90 minutes at 95°C

Storage Conditions
Store at -20°C. Guaranteed stable for 12 months when properly stored.

Ordering Information

Products	Size	Cat. No.
EpiQuik Pfu DNA Polymerase	500 Units	R12013-1
EpiQuik Pfu DNA Polymerase	1000 Units	R12013-2
EpiQuik Pfu DNA Polymerase	2500 Units	R12013-3