



Lot 0006247171

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Catalog Number	600684
Product Name	Paq5000 DNA Polymerase
Expiration Date	2016-08-30
Quantity	5000 U
Certified By	Dana Faver
Quality Controlled By	Tricia Molina
Shipping Conditions	Shipped on dry ice.
Storage Conditions	Store at -20°C upon receipt.

Concentration

5 U/μl

Description

Paq5000 DNA Polymerase* is a new alternative to *Taq* DNA polymerase that provides higher PCR yields. In addition, Paq5000 DNA Polymerase is optimized for fast cycling conditions to save time and increase throughput. The enzyme is a recombinant DNA-dependent DNA polymerase isolated from a *Pyrococcus* species. Paq5000 DNA Polymerase is ideal for endpoint PCR for up to 6 kb genomic targets. It is not recommended for high fidelity cloning or 5' nuclease assays.

10x Reaction Buffer

Use only the provided 10x Paq5000 Reaction Buffer. Changing the reaction buffer may adversely affect enzyme performance. The 10x buffer provides a final 1x Mg²⁺ concentration of 2 mM.

Unit Activity

One unit of activity is the amount of enzyme required to incorporate 10 nanomoles of [³H]dTTP in 30 minutes at 72°C.

Test Conditions

Paq5000 DNA polymerase was tested by polymerase chain reaction (PCR) assays using multiple primer-template systems, with targets sizes ranging from 0.9–6.0 kb. The resulting amplification products were visualized on an agarose gel to verify the production of discrete products of the expected size.

Contamination Test Conditions

Paq5000 DNA polymerase is tested to confirm the absence of detectable nonspecific nuclease and DNA contamination.

PCR Protocol

To a nuclease-free microcentrifuge tube, add the following components in order:

- x μl of dH₂O for a final reaction volume of 50 μl
- 5 μl of 10x Paq5000 Reaction Buffer
- 0.4 μl of 100 mM dNTP mix (25 mM each dNTP)
- 1 μl of 10 μM forward primer
- 1 μl of 10 μM reverse primer
- 100 ng genomic DNA or 5-30 ng vector DNA
- 0.5 μl of Paq5000 DNA Polymerase (5 U/μl)

Mix the reaction gently, then place the reaction in a thermocycler and run the following PCR amplification program:

<u>Cycles</u>	<u>Temperature</u>	<u>Duration</u>
1	95°C	2 minutes
	95°C	20 seconds
30	Primer T _m -5°C	20 seconds
	72°C	30 seconds/kb
1	72°C	5 minutes

Endnotes

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*U.S. Patent Nos. 6,734,293; 6,444,428; 6,183,997; 5,489,523.

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