



Lot 0006315319

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Catalog Number	600862
Product Name	Paq5000 Hotstart DNA Polymerase
Expiration Date	2019-02-28
Quantity	1000 U
Certified By	Dana Faver
Quality Controlled By	Matt Huffman
Shipping Conditions	Shipped on dry ice.
Storage Conditions	Store at -20°C upon receipt.

**Concentration**

5 U/μl

**Description**

Paq5000 Hotstart DNA Polymerase\* is a new alternative to *Taq* DNA Polymerase that provides higher PCR yields. The hot start feature allows room temperature PCR assembly, provides reduced background, and improves detection sensitivity. In addition, Paq5000 Hotstart DNA Polymerase is optimized for fast cycling conditions to save time and increase throughput. Paq5000 Hotstart 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 Hotstart Reaction Buffer. Changing the reaction buffer may adversely affect enzyme performance. The 10x buffer provides a final 1x Mg<sup>2+</sup> concentration of 2 mM.

**Unit Activity**

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

**Test Conditions**

Paq5000 Hotstart DNA Polymerase was tested by polymerase chain reaction (PCR) assays using multiple primer-template systems. 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 Hotstart 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 dH<sub>2</sub>O for a final reaction volume of 50 μl
- 5 μl of 10x Paq5000 Hotstart 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 Hotstart DNA Polymerase (5 U/μl)

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

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

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**Endnotes**

Purchase of this product conveys to the purchaser the non-transferable right under these patents to use the product for research use only.

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

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