Product Testing Report

Blastaq™ HotStart 2X PCR MasterMix

Cat. No. G598

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Blastaq™ HotStart 2X PCR MasterMix: Product Efficiency

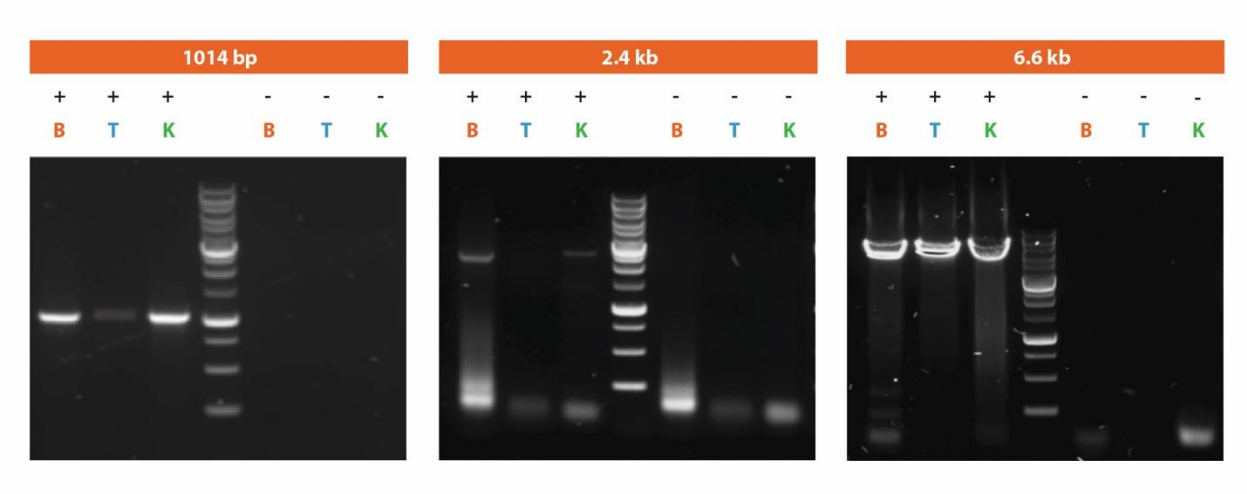
Purpose

To compare the performance of Blastaq™ HotStart 2X PCR MasterMix to two other leading brand competitor products.

Method

Three different templates were selected: Target 1, a 1014 bp fragment derived from human cDNA; Target 2, a 2.4 kb fragment from mouse cDNA; and Target 3, a 6.6 kb fragment sourced from bacteriophage lambda. The PCR reactions were assembled according to the respective manufacturer protocols and thermocycling conditions. The maximum template input was set at 100 ng for Targets 1 and 2, and 20 ng for Target 3. Negative template control (NTC) reactions received the same volume of nuclease-free water instead of the template. Upon completion, the reactions were analyzed using agarose gel electrophoresis with a 20 µl load.

Figure 1 – Blastaq™ HotStart 2X PCR MasterMix (B) shows comparable performance to Competitor K (K) while exceeding the results of Competitor T (T).



Results

In the context of Target 1 (1014 bp), Blastaq™ HotStart 2X PCR MasterMix demonstrates amplification efficiency comparable to that of Competitor K. Competitor T produces a less intense band, likely indicating suboptimal thermocycling conditions, as suggested by the manufacturer to reduce PCR reaction time.

Regarding Target 2 (2.4 kb), Competitor T nearly fails to produce any product. Blastaq™ HotStart 2X PCR MasterMix yields a more pronounced band compared to Competitor K, although some primer-dimer formation is observed.

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For Target 3 (6.6 kb), all three products successfully amplified the target.

Conclusion

Blastaq™ HotStart 2X PCR MasterMix shows greater efficiency than Competitor T and demonstrates a level of efficiency comparable to that of Competitor K.

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