

MyTaq™ HS DNA POLYMERASE

A QUANTUM LEAP FOR PCR

MyTaq™ HS DNA Polymerase is a high performance PCR product powered by antibody mediated hot-start, specifically designed for fast, highly-specific, hot-start PCR. The product also has the added convenience of room temperature reaction assembly, without non-specific amplification and primer-dimer formation. This new hot-start enzyme preparation from Bioline (a Meridian Life Science, Inc. Company) is supplied with 5x MyTaq Reaction Buffer, a proprietary formulation containing dNTPs, $MgCl_2$ and enhancers at optimal concentrations, removing the need for optimization and giving superior amplification.

FEATURES:

- New generation Taq with highest specificity and superior performance.
- Validated with a full range of genomic DNA templates.
- Novel optimized buffer system with dNTPs and $MgCl_2$
- Convenient all-in-one master mix
- Direct gel loading

APPLICATIONS:

- High-throughput PCR
- Colony PCR
- Assays with prolonged reaction setup on the bench or liquid handling
- Amplification of challenging targets susceptible to mispriming
- Specific amplification of difficult templates (GC rich)
- Genotyping
- TA cloning
- Multiplexing



MyTaq™ HS MIX - Convenient all-in-one tube mastermix

MyTaq™ HS Mix is a ready-to-use 2x mix for fast, highly-specific, hot-start PCR. MyTaq HS Mix is powered by antibody mediated hot-start and does not possess polymerase activity during the reaction set-up, thus reducing non-specific amplification. The advanced formulation of MyTaq HS Mix allows fast cycling conditions to be used (Fig. 1), greatly reducing the reaction time without compromising PCR specificity and yield (Fig. 2). MyTaq HS Mix contains all the reagents including MyTaq buffer, dNTPs, $MgCl_2$, enhancers and stabilizers necessary for trouble-free PCR. The product is supplied conveniently all-in-one tube to reduce the number of pipetting steps and to facilitate increased efficiency, throughput and reproducibility.



MyTaq™ is a trademark of Bioline.

ISO 9001:2008 | Quality System Regulations - 21 CFR 820 | cGMP - 21 CFR 210, 211



HIGH PERFORMANCE PCR

Fig.1 Fast amplification (26.3 minutes) was carried out on a range of human genomic genes. - A) A 340bp and B) a 450bp fragment of the myc gene, C) a 525bp fragment of the EGFR gene and D) a 530bp fragment of the AGRI1 gene were amplified using MyTaq HS and the results were compared with amplifications using hot-start DNA polymerases from other suppliers. The process used a serial dilution of human genomic DNA (100ng, 33ng, 10ng, 4ng, 1ng, 33pg, 10pg and 3pg genomic DNA, lanes 1-8 respectively), incubated for 3 min at 95°C followed by 35 cycles of 15s at 95°C, 55°C and 72°C. Marker is HyperLadder I (M) (Cat No. 810-33025). MyTaq HS performed well across all four human genes.



Fig. 2 Robustness of MyTaq HS in Colony PCR. A 2.6Kb fragment of human genomic DNA was cloned into M13 vectors and transformed into *E. coli* cells. 1ml of a 1:16 dilution of an overnight culture of these cells was used directly in a 50µl PCR reaction. A) 2 µl increments of agar were added (Lanes 1-8 respectively). B) 2 µl increments of LB were added (Lanes 1-8 respectively). Reaction conditions were 95°C for 3 min, followed by 35 cycles of 95°C for 15s, 60°C for 15s and 72°C for 2 mins. Marker is HyperLadder I (M) (Cat No. B10-33025). MyTaq HS DNA polymerase was more resistant to inhibition than that of supplier S, making it ideal for Colony PCR, even from liquid overnight cultures, offering improved workflows particularly for high-throughput assays. C) *E. coli* transformed with M13 carrying the 2.6 kb or an 884 bp insert were plated out and 12 colonies were picked with tooth-picks and washed directly into MyTaq buffer and amplified using MyTaq HS. Reaction conditions were 95°C for 3 min, followed by 30 cycles of 95°C for 15s, 60°C for 15s and 72°C for 2mins. Marker is HyperLadder I (M) (Cat No. B10-33025). The results show that fragments up to 3kb can be reliably amplified using fast cycling conditions with MyTaq HS DNA polymerase. This allows the opportunity to interrogate full length inserts and facilitates the rapid identification of correct size plasmids.

