REAGENTS FOR RESULTS

MyGo HS Taq Mix

Cat. No. 1919 | 1816

Component	200 Reactions (1919)	1000 Reactions (1816)
2x MyGo HS Taq Mix	5 x 1ml	25 x 1ml

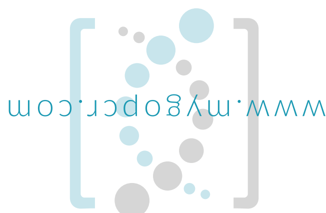
This product is for research use only

1. STORAGE

Store all components at -20°C with minimal exposure to light. If stored correctly the kit will retain full activity for 12 months. The kit may be stored at 4°C for short term use (1 month). The kit can go through up to 30 freeze/thaw cycles with no reduction in performance.

2. TECHNICAL ASSISTANCE

If you have any questions, or experience any difficulties with MyGo HS Taq Mix, please email reagentsupport@mygopcr.com, providing full details including amplicon size, reaction setup, cycling conditions and screen shots of gel images.



3. DESCRIPTION

MyGo HS Taq Mix is designed for use in all routine and high-specificity PCR applications including genotyping, multiplexing, library construction, colony PCR and direct PCR from unprocessed samples such as blood and urine. The mix includes MyGo HS Taq DNA Polymerase, dNTPs, and $MgCl_2$ in an optimised buffer to give the best results under challenging conditions such as the amplification of high GC targets and the presence of inhibitors.

MyGo HS Taq DNA Polymerase uses antibody-mediated hot start to give fast, highly specific PCR. The enzyme is inactive at ambient temperatures, preventing the formation of primer-dimers and mis-primed products with the convenience of room temperature setup. The enzyme is activated at the start of a reaction with a 95°C incubation step. The enhanced efficiency and specificity of MyGo HS Taq DNA Polymerase make it the ideal choice for low-copy and difficult PCR.

MyGo HS Taq Mix is ready-to-use and supplied in a single tube containing all the reagents required for trouble-free PCR setup. It is recommended for the amplification of up to 6kb. PCR products generated are A-tailed, and may be cloned into TA cloning vectors.

4. IMPORTANT NOTES

4.1 **2x MyGo HS Taq Mix:** The 2x mix contains MyGo HS Taq DNA Polymerase, 6mM $MgCl_2$, 2mM dNTPs, enhancers and stabilizers. The buffer system has been optimised for the best PCR results and we do not recommend adding further enhancers or $MgCl_2$ to the reaction.

4.2 **Template:** For cDNA use below 100ng per reaction. For eukaryotic DNA use between 5ng and 500ng per reaction.

4.3 **Primers:** We recommend using primer design software Primer 3 (http://frodo.wi.mit.edu/primer3/). Primers should have a melting temperature (Tm) of approximately 60°C. The final primer concentration in the reaction should be between 0.2µM and 0.6µM.

4.4 **Annealing:** We recommend performing a temperature gradient to experimentally determine the optimal annealing temperature. As an alternative, you can use a 55°C annealing temperature then increase in 2°C increments if non-specific products are present.

4.5 **Extension:** The recommended extension temperature is 72°C. The optimal extension time will depend on amplicon length and complexity of template. We recomment 15 seconds per kilobase (kb) for amplification from eukaryotic DNA (amplicons between 1kb and 6kb). For shorter amplicons, a 1 second extension will be sufficient.

4.6 **Multiplex PCR:** We recommend running an annealing temperature gradient (55°C-65°C) when first performing multiplex PCR and using the annealing temperature that results in the best specificity in subsequent experiments. Do not use fast cycling conditions for multiplex PCR. We recommend a 90 second extension time initially, which may be further extended to increase yield.

4.7 **Colony PCR:** Use a sterile tip to pick a bacterial colony and resuspend in a 50µl reaction as described below. From liquid culture add 5µl of overnight culture to the final mix. Increase initial denaturation time to 10 minutes.

4.8 **Direct blood/urine PCR:** Add 2µl mammalian blood or urine to a 50µl reaction (see 5.1 below).

5. REACTION SETUP

5.1 Prepare a master mix using the following table:

Component	50µl reaction	Final concentration	Notes
2x MyGo HS Taq Mix	25.0µl	1x	
Forward primer (10µM)	2.0µl	400nM	See 4.3 above
Reverse primer (10µM)	2.0µl	400nM	
Template DNA	<100ng cDNA <500ng gDNA	variable	See 4.2 above
PCR grade water	Up to 50µl total volume		

5.2 Cycle using the following conditions:

Cycles	Temperature	Time	Notes
1	95°C	1 min to 2 min	Initial denaturation and enzyme activation Increase to 10 minutes for Colony PCR
40	95°C 55°C to 65°C 72°C	15 seconds 15 seconds 1 to 90 seconds	Denaturation Anneal Extension (15 seconds per kb). For multiplex PCR use 90 seconds