

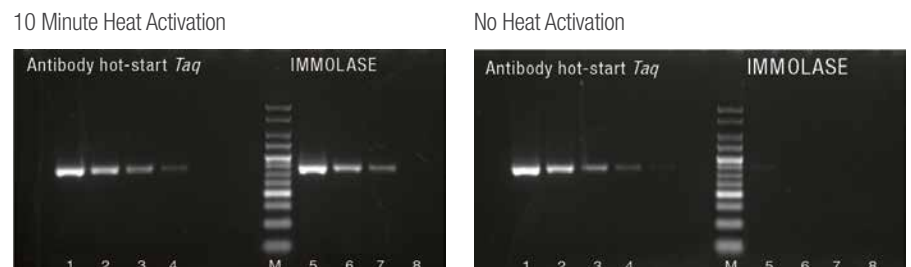
# IMMOLASE™ DNA Polymerase and Mixes

Heat-activated thermostable DNA Polymerase for improved specificity and low-copy number PCR.

**IMMOLASE™ is a heat-activated thermostable DNA polymerase that eliminates all non-specific priming and the formation of primer-dimers, thereby delivering improved specificity when compared to standard polymerases.**

- **Specific:** chemical hot-start eliminates non-specific amplification
- **High-performance:** robust amplification with challenging DNA targets
- **Efficient:** optimized buffer system maximizes efficiency of PCR amplification
- **Convenient:** ImmoMix and ImmoMix Red are all-in-one mastermixes that improve the speed and convenience of PCR set-up

Antibodies used in conventional hot-start amplification are purified from hybridoma cells, which can contaminate reactions with mammalian DNA. IMMOLASE DNA Polymerase benefits from a chemical hot-start mechanism therefore reducing the risk of biological contamination. Assembling PCR reaction mixtures at room temperature can result in the formation of non-specific products, leading to decreased yield of the desired target amplicon. IMMOLASE is completely inactive, allowing for reaction set-up at room temperature and requires a 10 minute heat activation step at 95 °C to restore polymerase activity (Fig. 1).



**Fig. 1 Heat-activation property of IMMOLASE**

A 200 bp fragment from pGEM3zf(+) was amplified with IMMOLASE DNA Polymerase and the results were compared with PCR reactions using an antibody-mediated hot-start *Taq*. A 2-fold serial dilution of pGEM (1 ng - 125 pg) was amplified using the hot-start *Taq* (lanes 1 - 4) and IMMOLASE (lanes 5 - 8, HyperLadder 25 bp (M)), with and without a 10 minute heat-activation step. Unlike the antibody-mediated hot-start polymerase amplification was detected without full heat-activation of IMMOLASE. Illustrating that IMMOLASE can be kept at room temperature without exhibiting polymerase activity resulting in non-specific PCR products.

IMMOLASE has been optimized for highly efficient PCR amplification across a diverse range of templates. IMMOLASE generates an A' overhang making it suitable for TA cloning. Additional MgCl<sub>2</sub> solution is included, should any fine adjustments be required to the composition of the PCR reaction.

## APPLICATIONS

IMMOLASE is suited to a broad range of challenging PCR applications including:

- Multiplex PCR
- TA cloning
- Low-copy number PCR

## MASTERMIX

ImmoMix™ is a complete, ready-to-use, heat-activated 2x reaction mix, which simply requires the user to add template and primers. ImmoMix decreases the number of pipetting steps required for reaction set-up, reducing the risk of contamination, delivering high-yield PCR amplification (Fig. 2) and increased reproducibility.

## DIRECT GEL LOADING

ImmoMix Red combines all of the advantages of ImmoMix with the inclusion of a red dye. The red dye increases the visual contrast between the reagent and the reaction vessel for improved convenience and to improve pipetting accuracy. The red dye also enables completed PCR reactions to be loaded directly on to a gel without the need for additional loading buffer.



**Fig. 2 Higher yields from ImmoMix**

An 800 bp fragment of the  $\beta$ -actin gene was amplified using ImmoMix and the result was compared with PCR reactions using antibody-mediated hot-start mediated mixes from other suppliers. A 5-fold serial dilution of human genomic DNA (100 ng - 32 pg, lane 1-6 respectively, HyperLadder 50bp (M)), was amplified according to the manufacturers' protocol. The results illustrate the higher yield obtained using ImmoMix in comparison to suppliers A, B and C.

## Ordering Information

Product	Size	Cat. #
IMMOLASE DNA Polymerase	250 Units	BIO-21046
	500 Units	BIO-21047
ImmoMix	500 Reactions	BIO-25020
ImmoMix Red	500 Reactions	BIO-25022

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