

# IMMOLASE™ DNA Polymerase

Shipping: Dry/Blue Ice

Catalog numbers

BIO-21046: 250 Units

Batch No.: See vial

BIO-21047: 500 Units

Concentration: 5 U/μL

Store at -20°C

**meridian** BIOSCIENCE™

## Storage and stability:

The IMMOLASE is shipped on dry/blue ice. On arrival store at -20 °C for optimum stability. Repeated freeze/thaw cycles should be avoided. Thaw, mix, and briefly centrifuge each component before use.

## Expiry:

When stored under the recommended conditions and handled correctly, full activity of the kit is retained until the expiry date on the outer box label.

## Safety precautions:

Please refer to the material safety data sheet for further information.

## Unit definition:

One unit is defined as the amount of enzyme that incorporates 10nmoles of dNTPs into acid-insoluble form in 30 minutes at 72 °C.

## Notes:

For research or further manufacturing use only.

## Trademarks:

IMMOLASE and ImmoMix are trademarks of Bioline Reagents Ltd.

## Features

- Outstanding and robust performance
- Excellent specificity
- Convenient set up at room temperature
- Available in ready-to-go versions ImmoMix™ and ImmoMix™ Red

## Applications

- Hot-start PCR assays
- TA cloning
- Ultra-high specificity for multiplex reactions
- Low-copy number templates

## Description

IMMOLASE™ DNA Polymerase is a heat-activated thermostable DNA polymerase isolated from a novel organism. IMMOLASE provides improved specificity as compared to standard polymerases and can eliminate the presence of non-specifics, such as primer-dimers and mis-primed products. IMMOLASE is inactive at room temperature and therefore prior to PCR cycling, requires activation by heat treatment for 10 minutes. Subsequently, the reaction can be handled according to the user's existing protocols for thermostable DNA Polymerases.

## Components

| Product                          | 250 Units | 500 Units  | 5000 Units  |
|----------------------------------|-----------|------------|-------------|
| IMMOLASE DNA Polymerase          | 1 x 50 μL | 1 x 100 μL | 10 x 100 μL |
| 10x ImmoBuffer                   | 1.2 mL    | 2 x 1.2 mL | 20 x 1.2 mL |
| 50 mM MgCl <sub>2</sub> Solution | 1.2 mL    | 1 x 1.2 mL | 10 x 1.2 mL |

## Associated Products

| Product      | Pack size     | Cat. No.  |
|--------------|---------------|-----------|
| dNTP Set     | 4 x 25 μmol   | BIO-39025 |
| dNTP Mix     | 500 μL        | BIO-39028 |
| ImmoMix™     | 500 Reactions | BIO-25020 |
| ImmoMix™ Red | 100 Reactions | BIO-25021 |
| Agarose      | 100 g         | BIO-41026 |

## Product Citations:

1. Payne, B.A. *Nature Gene*. **43**, 806-810 (2011)
2. Massire, C., *et al. J. Clin. Microbiol.* **49**, 908 - 917 (2011)
3. Ashton, E.J. *Meth. Mol. Biol.* **688**, 1-6 (2011)
4. Kaczmarek, K., *et al. Mol. Biol. Cell* **22**, 1766 - 1779 (2011)
5. Scoville, A.G. & Pfender, M.E. *PNAS* **107(9)**, 4260-4263 (2010)

## PCR Reaction conditions (for a 50 μL reaction)

|                                  |             |
|----------------------------------|-------------|
| 10x ImmoBuffer                   | 5 μL        |
| 100 mM dNTP Mix*                 | 0.5 μL      |
| 50 mM MgCl <sub>2</sub> Solution | 3.0 μL      |
| Template and primers             | As required |
| IMMOLASE                         | 1 μL        |
| Water (ddH <sub>2</sub> O)       | Up to 50 μL |

\* *Bioline 100 mM dNTP Mix is available as a separate product (BIO-39028)*

Activation: pre-heating step at 95°C for 10 minutes  
Denaturation: 94-96 °C  
Annealing: depends on primer T<sub>m</sub>  
Extension: 72 °C (allowing 15-30 seconds/kb)

## General Considerations:

Pre-incubate at 95 °C for 10 minutes. Subsequently, the reaction can be treated according to the user's existing protocols.

If extension time exceeds 2.5 minutes, a maximum of 30 cycles should be used. Increasing the number of cycles may lead to smearing when run on an agarose gel.

The ideal MgCl<sub>2</sub> concentration in the reaction is likely to be 1.5 - 2.5 mM (final concentration), but some optimization may be necessary to achieve the best possible results. For first tests, use no less than 1 unit of IMMOLASE in a 50 μL reaction.

**This data is intended for use as a guide only; conditions will vary from reaction to reaction and may need optimization.**

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