



Product Insert  
**IMMOLASE™ DNA  
 Polymerase**  
 Research Use Only

**Product:** IMMOLASE™ DNA Polymerase

**Description:**

Heat-activated Thermostable DNA Polymerase isolated from a novel organism.

**Catalogue No:**

BIO-21046	250 u
BIO-21047	500 u
BIO-21048	5000 u

**Batch details:**

Batch No:	See vial
Units per vial:	See vial
Concentration:	5 u / µl

**Additional reagents supplied:**

10x ImmoBuffer: 160 mM (NH<sub>4</sub>)<sub>2</sub> SO<sub>4</sub>, 1 M Tris-HCl pH 8.3, 0.1% Tween-20

Separate MgCl<sub>2</sub> solution: 50 mM MgCl<sub>2</sub>

**Reaction Conditions (for a 50µl reaction)**

10x ImmoBuffer	5 µl
50 mM MgCl <sub>2</sub> Solution	1.5 – 4 µl
100 mM dNTP Mix (see below)	0.5 – 1 µl
Template and Primers	as required
Enzyme	0.2 – 1 µl
Water (ddH <sub>2</sub> O)	up to 50 µl

Bioline 100 mM dNTP Mix is available as a separate product (see associated products)

Activate: pre-heating step at 95°C for 7 mins  
 Denature: 94-96°C  
 Elongate: 72°C (allowing 15-30 seconds/kb)

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

**Features and applications:**

- Heat-activated
- Extremely high specificity
- Elimination of non-specific reaction products
- Polymerises regions of DNA such as secondary structures or microsatellites, which are difficult to extend with other polymerases

**Specificity and Performance** of the IMMOLASE™ DNA Polymerase can be increased with the use of **2x Poly-Mate** (not supplied, see associated products), which is designed for GC- or AT-rich DNA, "dirty" templates or sequences with difficult melting profiles.

**Suggestions for use:**

IMMOLASE™ is a heat-activated thermostable DNA polymerase which provides improved specificity and higher yields than other standard DNA polymerases. IMMOLASE™ can eliminate the production of non-specific reaction products, such as primer-dimers and misprimed products.

The enzyme must be activated by heat treatment before primer extension is possible. All reaction components (including IMMOLASE™) should be added to the reaction, and then **pre-incubated at 95°C for 7 minutes**. Subsequently, the reaction can be treated according to the user's existing protocols for thermostable DNA polymerases.

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

**Storage Conditions:**

IMMOLASE™ DNA Polymerase can be stored at -20°C, in a constant-temperature freezer for 12 months. IMMOLASE™ will remain stable if stored as specified.

Storage and dilution buffer: 20 mM Tris-HCl, pH 7.5, 100mM NaCl, 0.1mM EDTA, 2mM DTT, 50% Glycerol, and 0.1% Tween-20.

Unit definition

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

Associated activities

Endonuclease and exonuclease activities were not detectable after 4 hours of incubation of 1µg of pBR322 plasmid DNA and 0.5µg *Hind* III-digested lambda phage DNA at 72°C in the presence of 20u of IMMOLASE.

Associated products

Product Name	Pack Size	Cat No
dNTP Set	4 x 25µmol	BIO-39025
dNTP Mix	100 mM total 40 mM total	BIO-39028 BIO-39043
2x Poly-Mate Additive	2 x 1.2ml	BIO-37041
Immomix	100 rxns 500 rxns	BIO-25019 BIO-25020
Hyper Ladder I	200 lanes 500 lanes	BIO-33025 BIO-33026
Agarose	500g	BIO-41025

Note: This product is supplied for use in primer extension reactions. Purchase of this product does not convey a licence to perform any patented process.

**IMMOLASE is a Trademark of Bioline**

**This product contains a declaration of analysis at the time of manufacture**