

BIOLASE™ DNA Polymerase

Shipping: On Dry/Blue Ice

Catalog numbers

BIO-21042: 500 Units (100µl)

Batch No.: See vial

BIO-21043: 2500 Units (5 x 100µl)

Concentration : 5u/µl

BIO-21066: 10000 Units (20 x 100µl)



A Meridian Life Science® Company

Store at -20°C

Storage and stability:

The BIOLASE is shipped on dry/blue ice. On arrival store at -20°C for optimum stability. Repeated freeze/thaw cycles should be avoided.

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.

Quality control specifications:

Bioline operates under ISO 9001 Management System. BIOLASE and its components are extensively tested for activity, processivity, efficiency, sensitivity, absence of nuclease contamination and absence of nucleic acid contamination prior to release.

Notes:

Research use only.

BIOLASE and HyperLadder are Trademarks of Bioline.

Features

- Premium Taq polymerase suited to a wide range of applications
- Amplifies fragments ≤5Kb
- Available as ready-to-use 2x reaction mixes (BioMix/BioMix Red)

Applications

- Routine PCR applications
- TA cloning

Description

BIOLASE™ is widely used by molecular biologists that have come to depend upon the robust performance of this reagent.

BIOLASE is a highly purified thermostable DNA polymerase offering very high yield over a wide range of PCR templates, and is the ideal choice for most assays. BIOLASE is a robust preparation and consistently delivers high yields with minimal background. BIOLASE possesses 5'-3' exonuclease activity and leaves an 'A' overhang such that the PCR product is suitable for effective integration into TA cloning vectors.

BIOLASE is supplied with 10x NH₄-based reaction buffer, which provides optimal conditions for most experiments. Additional MgCl₂ is provided to allow reaction conditions to be adjusted to suit the template. Specificity and performance of BIOLASE can be further improved with the use of 2x PolyMate Additive (not supplied, see associated products), which is designed for GC- or AT-rich DNA, "dirty" templates or sequences with a high level of secondary structure.

Components:

Reagent	500 Units	2500 Units	10000 Units
BIOLASE DNA Polymerase	100µl	5 x 100µl	20 x 100µl
10x NH ₄ Reaction Buffer	2 x 1.2ml	10 x 1.2ml	40 x 1.2ml
50mM MgCl ₂ Solution	1.2ml	5 x 1.2ml	20 x 1.2ml

General Considerations:

The optimum concentration of Mg²⁺ is 3mM and should only be increased above this if absolutely necessary. For first tests, use no less than 2.5 units of BIOLASE in a 50µl reaction.

Citations: (http://www.bioline.com/h_scholar.asp)

1. Daly-Engel, T.S. *et al. PLoS ONE* **7(1)**: e29986 (2012)
2. Lutes, A.A., *et al. PNAS USA* **108(24)**: 9910-9915 (2011)
3. Frank, D.N., *et al. PLoS ONE* **4(11)**: e7811 (2009)
4. Nelson, K. & Smith, A. *Diag. Microbio. Infect. Dis.* **66(3)**: 235-40 (2009)
5. Fingert, J. H., *et al. Ophthalmic Gen.* **28**: 1-7 (2007)
6. Ouma, J. O., *et al. Biochem. Gen.* **44**: 9-10 (2006)

PCR Reaction Conditions (for a 50µl reaction)

10x NH ₄ Reaction Buffer	5µl
50mM MgCl ₂ Solution	1.5 - 4.0µl
100mM dNTP Mix (see below)	0.5 - 1.0µl
Template and primers	As required
BIOLASE	0.5 - 1µl
Water (ddH ₂ O)	Up to 50µl

Bioline 100mM dNTP Mix is available as a separate product (Cat. No: BIO-39028)

Denature: 94-96°C;
Extension: 70-72°C allowing 15-30 seconds per Kb

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

Associated Products:

Product	Pack size	Cat. No.
dNTP Set	4 x 25µmol	BIO-39025
dNTP Mix	500µl	BIO-39028
2x PolyMate Additive	2 x 1.2ml	BIO-37041
HyperLadder™ 1kb	200 Lanes	BIO-33025

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