

# BIOTAQ™ DNA Polymerase

Shipping: Room Temperature	Catalog numbers
Exp. Date: See vial	BIO-21039: 100 Units (1 x 20µl)
Batch No.: See vial	BIO-21040: 500 Units (1 x 100µl)
Concentration: 5u/µl	BIO-21060: 2500 Units (5 x 100µl)



A Meridian Life Science® Company

Store at -20°C

## Storage and stability:

BIOTAQ™ DNA Polymerase is shipped on Dry/Blue Ice. All kit components should be stored at -20°C upon receipt. Excessive freeze/thawing is not recommended. When stored under optimum conditions, the reagents are stable for a minimum of 12 months from date of purchase.

## 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.

## Storage and Dilution Buffer:

20mM Tris-HCl, pH 7.5, 100mM NaCl, 0.1mM EDTA, 2mM DTT, 50% glycerol and stabilizers.

## Reaction Specifications:

10x NH<sub>4</sub> Reaction Buffer: 670mM Tris-HCl (pH 8.8 at 25°C), 160mM (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, 100mM KCl, 0.1% stabilizer.

MgCl<sub>2</sub> Stock Solution: 50mM MgCl<sub>2</sub>

## Notes

1. Research Use Only.
2. BIOTAQ is a Trademark 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

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

BIOTAQ 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. BIOTAQ is a robust preparation and consistently delivers high yields with minimal background. BIOTAQ possesses 5'-3' exonuclease activity and leaves an 'A' overhang such that the PCR product is suitable for effective integration into TA cloning vectors.

BIOTAQ is supplied with 10x NH<sub>4</sub>-based reaction buffer, which provides optimal conditions for most experiments. Additional MgCl<sub>2</sub> is provided to allow reaction conditions to be adjusted to suit the template. The specificity and performance of BIOTAQ can be further improved with the use of 2x PolyMate Additive (Cat No. BIO-37041), which is designed for GC- or AT-rich DNA, "dirty" templates or sequences with a high level of secondary structure.

## Components:

Reagent	100 Units	500 Units	2500 Units
BIOTAQ DNA Polymerase	1 x 20µl	1 x 100µl	5 x 100µl
10x NH <sub>4</sub> Reaction Buffer	1 x 1.2ml	2 x 1.2ml	10 x 1.2ml
50mM MgCl <sub>2</sub> Solution	1 x 1.2ml	1 x 1.2ml	5 x 1.2ml

## PCR Reaction Conditions (for a 50µl reaction)

10x NH <sub>4</sub> Reaction Buffer	5µl
50mM MgCl <sub>2</sub> Solution	1.5 - 4.0µl
100mM dNTP Mix (see below)	0.5 - 1.0µl
Template and primers	As required
BIOTAQ	0.5 - 1µl
Water (ddH <sub>2</sub> 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.**

## General Considerations:

The optimum concentration of Mg<sup>2+</sup> is 3mM and should only be increased above this if absolutely necessary. For first tests, use no less than 2.5 units of BIOTAQ in a 50µl reaction.

## Citations:

1. Lutes, A.A. *et al. PNAS* **108**, 9910 - 9915 (2011).
2. Tucker, B.A. *et al. PNAS* **108**, E569 - E576 (2011).
3. Amaral, I.P. & Johnston, I.A. *J. Exp. Biol.* **214**, 2125-2139 (2011).
4. Coutinho, C.P., *et al. Infect. Immun.* **79**, 2950-2960 (2011).
5. Lora, J., *et al. PNAS* **108**, 5461-5465 (2011).
6. Palazón, A., *et al. Can. Res.* **71**, 801-811 (2011).
7. Levenberg, S. *et al. Nature Prot.* **5**, 1115-1126 (2010)
8. Tokuriki, N. & Tawfik, D.S. *Nature* **459**, 668-673 (2009).
9. Takada, S. & Mano, H. *Nature Prot.* **2**, 3136-3145 (2007)
10. López-Lluch, G., *et al. PNAS* **103**(6), 1768-73 (2006).

## 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 I	200 Lanes	BIO-33025

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