Product Insert

BIOTAQ™ DNA Polymerase

Catalogue Numbers:
BIO-21040 500 Units
BIO-21060 2500 Units

Features

- Consistent results
- Premium *Taq* polymerase suited to a wide range of applications
- Processes fragments of up to 5Kb
- Leaves 'A' overhang
- Available as ready-to-use 2x reaction mixes (BioMix™ and BioMix™ Red)

Applications

- Routine PCR applications
- Products suitable for 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_4-based reaction buffer, which provides optimal conditions for most experiments. Additional $MgCl_2$ 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.

BIOTAQ™ DNA Polymerase is purified from *Thermus aquaticus*.

PCR Reaction Conditions (for a 50µl volume)

10x NH_4 Buffer	5µl
50mM $MgCl_2$ Solution	1.5 – 4.0µl
100mM dNTP Mix (see below)	0.5 - 1.0µl
Template and Primers	as required
BIOTAQ™	0.5 – 1.0µl
Water (ddH_2O)	up to 50µl

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

Denature: 94-96°C
Elongate: 70-72°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 optimization.

Product Specifications

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

Components

	100 Units	500 Units	2500 Units
BIOTAQ DNA Polymerase	20µl	100µl	5 x 100µl
10x NH_4 Reaction Buffer	1.2ml	2 x 1.2ml	10 x 1.2ml
50mM $MgCl_2$ Solution	1.2ml	1.2ml	5 x 1.2ml

Reagent Specifications:
10x NH_4 Reaction Buffer: 160mM $(NH_4)_2SO_4$, 670mM Tris-HCl (pH 8.8 at 25°C), 0.1% stabilizer
$MgCl_2$ Stock Solution: 50mM $MgCl_2$ (suggested final concentration 1.5mM – 4mM).

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

Storage Conditions:
BIOTAQ can be stored for 12 months at -20°C.

Shipping Conditions:
On Dry Ice or Blue Ice.

Associated Activities:
Endonuclease and exonuclease activities were not detectable after 2 and 1 hour incubations, respectively, of 1µg lambda DNA and 0.22 µg of *Eco*R I-digested lambda DNA at 72°C in the presence of 15-20 units of BIOTAQ DNA polymerase.

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.

Associated Products:

Product Name	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
IMMOLASE	250 Units	BIO-21046
HyperLadder I	200 Lanes	BIO-33025
Agarose	100g	BIO-41026

Product Citations:

1. López-Lluch, *et al*. *Proc. Natl Acad. Sci. USA* **103(6),** 1768-1773 (2006).
2. Knight, J.C., *et al*. *Nature Genetics* **33(4),** 469-475 (2003).
3. Ramalho, J.S., *et al*. *BMC Genetics* **2(**2), (2001).

Notes
1. BIOTAQ is a Trademark of Bioline.
2. This product insert is a declaration of analysis at the time of manufacture.
3. Research Use Only

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