



## Product Insert

# BIOTAQ™ Red DNA Polymerase

### Catalogue Numbers:

BIO-21041 500 Units  
BIO-21061 2500 Units

### Features

- Easy visual recognition
- Direct loading onto agarose gels
- Same high performance as BIOTAQ™ DNA Polymerase
- Leaves 'A' overhang
- Available as a ready-to-use 2x reaction mix (BioMix™ Red)

### Applications

- Routine PCR assays
- Products suitable for TA cloning
- High throughput applications

### Description

BIOTAQ™ Red DNA Polymerase is a formulation of our regular BIOTAQ DNA Polymerase, which contains a non-toxic and non-hazardous red dye. The red dye provides easy and quick identification of reactions to which the enzyme has been added, and facilitates the confirmation of complete mixing. When the reaction is complete, a sample of the reaction mix can be loaded directly onto the agarose gel without the need for loading buffer, since the mix is of sufficiently high density to sink to the bottom of the gel. The red dye migrates towards the positive electrode, thereby providing a means to monitor the progress of the electrophoresis.

The presence of the dye has no effect on routine enzymatic manipulations, although rare exceptions may occur. In order to produce a reaction of sufficient density to allow for the direct loading of a sample onto a gel, we recommend using a minimum of 1.5 Units per 50µl reaction.

The specificity and performance of BIOTAQ Red 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*.

### Reaction Conditions (for a 50µl volume)

10x NH <sub>4</sub> 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 Red	1.0 - 2.5µl
Water (ddH <sub>2</sub> O)	up to 50µl

Bioline 100mM dNTP Mix is available as a separate product (Catalogue number 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: 1u/µl

### Components:

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

### Reagent Specifications:

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

MgCl<sub>2</sub> Stock Solution: 50mM MgCl<sub>2</sub> (suggested final concentration 1.5mM – 4mM).

### Storage Buffer:

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

### Storage Conditions:

BIOTAQ Red can be stored for 12 months at -20°C.

### Shipping Conditions:

On Dry Ice or Blue Ice

### 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 Activities:

Endonuclease and exonuclease activities were not detectable after 2 and 1hour incubations, respectively, of 1µg lambda DNA and 0.22 µg of EcoR I-digested lambda DNA at 72°C in the presence of 15-20 units of BIOTAQ™ Red DNA polymerase.

### Associated Products:

Product Name	Pack Size	Cat No
dNTP Mix	500µl	BIO-39028
2x PolyMate Additive	2 x 1.2ml	BIO-37041
Hyper Ladder I	200 lanes	BIO-33025
Agarose	100g	BIO-41026

### Product Citations:

1. Kittler, *Ret al. Nat Methods*. **10**, 779-84 (2005).
2. Darryl, R., *et al. Australian Journal of Soil Research* **44(4)**, 319–329 (2006).
3. Robinson, S.J. & Healy, E. *Oncogene* **21(52)**, 8037-8046 (2002).

### 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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