



**Product Insert**  
**Mango-Taq DNA Polym.**

Research Use Only

**Product:**

Mango-Taq DNA Polymerase

**Description:**

Mango-Taq DNA Polymerase contains our thermostable BIOLASE™ DNA polymerase purified from *Thermus aquaticus* (1) with a colored 10x reaction buffer that contains 2 inert dyes. Mango-Taq offers consistent results across a wide range of assays. Mango-Taq leaves an A' overhang such that the primer extension product is suitable for effective integration into TA cloning vectors.

The red and orange dyes in the reaction buffer separate during electrophoresis and provide easy and quick reference points to monitor mobility of samples in the gel (see table below). The reaction mixture containing the coloured dyes can be loaded directly onto an agarose gel for analysis, without the need for loading buffer. The presence of the dyes has no effect on routine enzymatic manipulations, although rare exceptions may exist.

Approximate Migration of the dyes in 10x reaction buffer relative to DNA fragments

| % Agarose Gel | Red Dye | Orange Dye |
|---------------|---------|------------|
| 0.7           | 1.5kb   | 100bp      |
| 1.0           | 750bp   | 25bp       |
| 1.5           | 500bp   | 10bp       |
| 2.0           | 250bp   | <10bp      |
| 3.5           | 75bp    | <10bp      |

**Catalogue No:**

BIO-21078      5000u  
BIO-21079      20,000u

**Batch details:**

Batch No:      See vial  
Units per vial:      See vial  
Concentration:      1 u/µl

**Additional reagents supplied:**

10x NH<sub>4</sub> based Mango-Taq Reaction Buffer: containing inert dyes

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

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

|                                 |              |
|---------------------------------|--------------|
| 10x Mango-Taq reaction buffer   | 5 µl         |
| 50mM MgCl <sub>2</sub> Solution | 1.5 - 4.0 µl |
| 100mM dNTP Mix (see below)      | 0.5 - 1.0 µl |
| Template and Primers            | as required  |
| Enzyme                          | 1.0 - 3 µl   |
| Water (ddH <sub>2</sub> O)      | up to 50 µl  |

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.

**Storage Conditions:**

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

**Storage Conditions of 10x Reaction Buffer:** Repeated freeze-thaw cycles will affect the stability of Buffer. The Buffer will remain stable at +4°C for a minimum of one month.

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

**Shipping Conditions:**

Product is shipped at +4°C or -20°C. However, due to high stability features, trial samples are shipped at room temperature and we recommend usage within the following 3-4 weeks.

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 1 hour 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 Mango-Taq DNA polymerase.

Associated products

| Product Name              | Pack Size   | Cat No     |
|---------------------------|-------------|------------|
| dNTP Set                  | 4 x 25µmol  | BIO-39025  |
| dNTP Mix                  | 100mM total | 1 x 500 µl |
|                           | 40mM total  | 1 x 500 µl |
| 2x Poly-Mate Additive     | 2 x 1.2ml   | BIO-37041  |
| Immobilase DNA polymerase | 250 units   | BIO-21046  |
|                           | 500 units   | BIO-21047  |
| Hyper Ladder I            | 200 lanes   | BIO-33025  |
|                           | 500 lanes   | BIO-33026  |
| Agarose                   | 500g        | BIO-41025  |

**References:** (1) Kaledin, A.S., Slyusarenko, A.G. and Gorodetskii, S.I. (1981) *Biokhimiya* **46**, 1576

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.

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

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