



Product Insert

MangoTaq™ DNA Polymerase

Catalogue Numbers:

BIO-21083	1,000 Units
BIO-21082	2,000 Units
BIO-21078	5,000 Units
BIO-21079	20,000 Units

Features

- Excellent price/performance
- Easy visual recognition
- Direct loading onto agarose gels
- Robust performance
- Available as a ready-to-use 2x reaction mix (MangoMix)

Applications

- High throughput applications
- Suited to a wide range of PCR assays
- Products suitable for TA cloning

Description

MangoTaq™ DNA Polymerase is a formulation of Taq DNA Polymerase which offers consistent results across a wide range of DNA templates. MangoTaq DNA Polymerase possesses 5'-3' exonuclease activity and leaves an 'A' overhang such that the PCR product is suitable for effective integration into TA cloning vectors. The polymerase is supplied with two different reaction buffers for greater user flexibility. For high-throughput applications, MangoTaq and the colored reaction buffer make an ideal choice, since this combination enables the user to load directly on a gel in order to facilitate easy recognition.

The two reaction buffers supplied are: 5x Colored reaction buffer and 5x Colorless reaction buffer. The colored reaction buffer contains red and orange dyes, which separate during electrophoresis and provide quick reference points for monitoring the mobility of the DNA samples in the gel. The colored reaction buffer can be loaded directly onto an agarose gel for analysis, without the need for separate gel-loading buffer. The presence of the dyes has no effect on routine enzymatic manipulations, although rare exceptions may exist.

Since the colorless reaction buffer does not contain reference dyes, it is suitable for use when reaction products will be used directly for down-stream processes involving absorbance or fluorescent detection.

% Agarose Gel	Red Dye	Orange Dye
0.7	1.5kb	100bp
1.0	750bp	25bp
1.5	500bp	10bp
2.0	300bp	<10bp
3.5	75bp	<10bp

Reaction Conditions (for a 50µl volume)

5x MangoTaq Reaction buffer (Colored or colorless)	10µl
50mM MgCl ₂ Solution	1.5-4.0µl
100mM dNTP Mix (see below)	0.5-1.0µl
Template and Primers	as required
Enzyme	0.5-1.0µl
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
Elongate: 70-72°C (allowing 15-30 seconds/ Kb)

The specificity and performance of MangoTaq DNA Polymerase 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.

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

	1000 Units	2000 Units	5000 Units	20000 Units
MangoTaq DNA Pol.	200µl	2 x 200µl	5 x 200µl	20 x 200µl
5x MangoTaq Colored Reaction Buffer	4 x 1.5ml	8 x 1.5ml	20 x 1.5ml	80 x 1.5ml
5x MangoTaq Colorless Reaction Buffer	4 x 1.5ml	8 x 1.5ml	20 x 1.5ml	80 x 1.5ml
50mM MgCl ₂ Solution	2 x 1.2ml	4 x 1.2ml	10 x 1.2ml	40 x 1.2ml

Reagent Specifications:

MgCl₂ Stock Solution: 50mM MgCl₂ (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:

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

Shipping Conditions:

On Dry Ice or Blue Ice

Unit Definition:

One unit will incorporate 10nmoles of dNTPs in 30min 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 MangoTaq DNA polymerase.

Associated Products:

Product Name	Pack Size	Cat No
dNTP Set	4 x 25µmol	BIO-39025
dNTP Mix 100mM total	1 x 500µl	BIO-39028
MangoMix	250 Reactions	BIO-25033
SureClean Plus	1 x 5ml	BIO-37047

Product Citations:

1. Ho, S.W., et al. *Proc. Natl Acad. Sci. USA* **103(26)**, 9940-9945 (2006).
2. Ware, S.B., et al. *Fungal Gen & Biol.* **44(5)**, 389-397 (2007).

Notes

1. MangoTaq 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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