

BioMix™ Red

Shipping: On Dry/Blue Ice Catalog numbers

Batch No.: See vial BIO-25006: 500 x 50 µL reactions: (10 x 1.25 mL)

Concentration: 2x



Store at -20°C

Storage and stability:

The BioMix Red is shipped on dry/blue ice. On arrival store at -20 °C for optimum stability. Repeated freeze/thaw cycles should be avoided.

Expiry:

When stored under the recommended conditions and handled correctly, full activity of the kit is retained until the expiry date on the outer box label.

Safety precautions:

Please refer to the material safety data sheet for further information.

Quality control specifications:

BioMix Red and its components are extensively tested for activity, processivity, efficiency, sensitivity, absence of nuclease contamination and absence of nucleic acid contamination prior to release.

Notes:

Research use only.

BioMix is a Trademark of Bioline Reagents Limited.

Features

- Convenient pre-mixed, pre-optimized 2x solution
- Premium Taq polymerase suited to a wide range of applications
- Processes fragments up to 5 kb
- Reduced risk of contamination
- Dramatically decreases the time required for reaction set-up
- Reproducible results
- Direct gel loading

Applications

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

Description

BioMix™ Red is a complete ready-to-use 2x reaction mix containing an ultra-stable *Taq* DNA polymerase. It contains an additional inert red dye that permits easy visualization and direct loading onto a gel. There is no need to add loading buffer as the mix is of sufficiently high density to sink to the bottom of the gel.

BioMix Red has been developed to perform PCR assays of many common genomic and cDNA templates; the user has simply to add water, template and primers. It dramatically reduces the time required to set up reactions, thereby minimizing the risk of contamination. Greater reproducibility is ensured, by reducing the number of pipetting steps that can lead to errors.

BioMix Red has been optimized for a wide variety of templates, however an additional 50 mM of MgCl₂ solution is included should any fine adjustments be required.

Components

	500 Reactions
BioMix Red	10 x 1.25 mL
50 mM MgCl ₂ Solution	1.2 mL

Product Citations:

1. Walker, D.M., *et al. Microb. Ecol.* **1-13** (2019).
2. Woods-Tör, A., *et al. Frontiers in Plant Sci.* **9, 265** (2018).
3. Ciric, L., *et al. FEMS microbial. Let.*, **353(2)**: 106-115 (2014).
4. Kapralov, M. V., *et al. Mol. Boil. Evol.* **30(5)**: 1051-1059 (2013).
5. Harrup, L. E., *et al. J. Med. Entomol.* **49(1)**: 112-121 (2012).
6. Wang, Z., *et al. J. Biol. Chem.* **286(48)**: 41359-41367 (2011).
7. Price, N. T., *et al. J. Biol. Chem.* **285(11)**: 7857-7865 (2010).
8. Schultz, J.K., *et al. J. Hered.* **100(1)**, 25-33 (2009).
9. Kane, N., *et al. Endo. J.* **150(6)**, 2882-2888 (2008).
10. Rayner, B.S., *et al. J. Neurochem.* **97(1)**, 211 (2006).
11. Martinez-Cuesta, M.C., *et al. Lett. Appl. Microbiol.* **40(1)**, 44 (2005).

BioMix Red Protocol

Reaction Conditions (For a 50 µL reaction)

The optimal conditions will vary from reaction to reaction and are dependent on the system used. Each parameter has to be adjusted individually and some optimization may be required.

BioMix Red	25 µL
Template and Primers	as required
Water (ddH ₂ O)	up to 50 µL

Denature: 94-96 °C

Extension: 70-72 °C Allowing 15-30 seconds per kb

For optimal resolution of PCR products, we recommend the use of Tris-Acetate EDTA (TAE) buffer for gel preparation and electrophoresis.

The Mg²⁺ concentration in the 2x mix is 5 mM (2.5 mM final concentration), this is the optimum concentration for BioMix and should only be adjusted if absolutely necessary. The table below shows the volume of additional MgCl₂ to add to a 50 µL reaction to achieve different final concentrations.

Final Magnesium concentration required	Volume of 50 mM MgCl ₂ to add to a 50 µL final reaction volume
2.5 mM	0
3.0 mM	0.5 µL
3.5 mM	1 µL

This data is intended for use as a guide only; conditions will vary from reaction to reaction and may need optimization.

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