

BIO-X-ACT™ Long Mix

Shipping: On Dry/Blue Ice Catalog numbers

Exp. Date: See vial BIO-25023 : 100 x 50µl reactions: 2 x 1.25ml

Batch No.: See vial BIO-25024 : 500 x 50µl reactions: 10 x 1.25ml

Concentration: 2x

Store at -20°C

Reagent specifications:

MgCl₂ Stock Solution: 50mM MgCl₂

Storage and stability:

The BIO-X-ACT Long Mix is shipped on Dry/Blue Ice and can be stored for up to 12 months at -20°C, or up to 2 weeks at +4°C. Repeated freeze/thaw cycles should be avoided.

Safety precautions:

Harmful if swallowed. Irritating to eyes, respiratory system and skin. Please refer to the material safety data sheet for further information.

Notes:

BIO-X-ACT is a Trademark of Bionline.

This product insert is a declaration of analysis at the time of manufacture.

Research Use Only.

Features

- Amplifies fragments up to 20Kb
- Convenient pre-mixed, pre-optimized 2x solutions
- Reduced risk of contamination
- Dramatically decreases the time required for reaction set-up
- Reproducible results

Applications

- For high fidelity PCR of long DNA fragments
- Products suitable for cloning



DATA SHEET

Description

BIO-X-ACT Long Mix is a complete ready-to-use 2x reaction mix which enables PCR assays to be performed on problematic templates, with the simple addition of water, template and primers. In order to achieve optimal reaction conditions, the BIO-X-ACT Long Mix contains BIO-X-ACT Long DNA Polymerase, MgCl₂, ultrapure dNTPs manufactured by Bionline as well as further additives, and has been tested on Lambda DNA fragments of up to 20Kb. The mix has been optimized for a wide variety of templates, and an additional 50mM of MgCl₂ solution is included should any fine adjustments be required.

BIO-X-ACT Long Mix dramatically reduces the time needed to set up reactions, thereby minimizing the risk of contamination. Greater reproducibility is ensured, by a reduction in the number of pipetting steps that can lead to pipetting errors.

For fragments in excess of 15Kb, it may be preferable to use BIO-X-ACT Long DNA Polymerase instead of the pre-mixed version, in order to retain the ability to optimize conditions more readily.

Components

	100 Reactions	500 Reactions
BIO-X-ACT Long Mix	2 x 1.25ml	10 x 1.25ml
50mM MgCl ₂ Solution	1.2ml	1.2ml

BIO-X-ACT Long Mix Protocol

Reaction Conditions (For a 50µl 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.

BIO-X-ACT Long Mix	25µl
Template and Primers	as required
Water (ddH ₂ O)	up to 50µl

Denature: 94-97°C

Extension: 68-72°C Allowing 30-50 seconds per Kb

The addition of DMSO to a final concentration of 5% to the reaction mix may enhance results.

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

An additional tube of 50mM MgCl₂ is provided should any fine adjustments be necessary. The table below shows the volume of MgCl₂ to add to achieve different final concentrations.

Final Magnesium concentration required	Volume of 50mM MgCl ₂ to add to a 50µl final reaction volume
2.0mM	0
2.5mM	0.5µl
3.0mM	1µl

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

Product Citations:

1. Caffaro, C.E., *et al. PNASci. USA* **103(44)**, 16176-16181 (2006).
2. Tugendreich, S., *et al. Genome Res.* **11(11)**, 1899-1912 (2001).

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