



**Instruction Manual**

# **Alkali-Cation™ Yeast Transformation Kit**

**For the high efficiency transformation of library DNA into yeast two-hybrid reporter strains**

- > One Call**
- > One Source**
- > A World of Biotechnology Reagents**



250 Preps

Storage: 2-8°C

Catalog # 112200200

Revision # 112200200-12May

**[www.mpbio.com](http://www.mpbio.com)**

MP Biomedicals • 29525 Fountain Parkway • Solon, OH 44139 • tel: 1.800.854.0530 • fax: 1.800.334.6999



[www.mpbio.com](http://www.mpbio.com)



## TABLE OF CONTENTS

1. Introduction to the Alkali-Cation Yeast™ Transformation Kit.....	3
2. Kit Components and User Supplied Materials .....	3
3. Storage of Alkali-Cation™ Yeast Transformation Kit .....	3
4. Important Considerations Before Use .....	4
5. Protocol .....	5
6. Recommended Reference Format for Publications .....	6
7. Related Products.....	6
8. Product Use Limitation & Warranty.....	10

# 1. Introduction to the Alkali-Cation™ Yeast Transformation Kit

The Alkali-Cation™ Yeast Transformation Kit provides all of the reagents required to perform quick and easy non-electrical transforming of yeast with linear or plasmid DNA. Host cells are made competent by treatment with a Lithium/Cesium Acetate mixture. The entire procedure may be completed in less than 90 minutes and routinely provide a transformation efficiency of greater than 10<sup>4</sup> transformants per µg of DNA using YEP24 plasmid DNA.

## 2. Alkali-Cation Yeast Transformation Kit Components

<u>Component:</u>	<u>Quantity:</u>	<u>Catalog #:</u>
TE, pH 7.5, sterile solution	275 mL	112200201
Lithium/Cesium Acetate	125 mL	112200202
Carrier DNA, 10 mg/ml, sterile	1.25 mL	112200205
Histamine, sterile solution	1.25 mL	112200207
PEG	200 mL	112200203
TE/Cation MIXX	50 mL	112200204
SOS, sterile solution	40 mL	112200206

## 3. Storage of Alkali-Cation™ Yeast Transformation Kit

The Alkali-Cation™ Yeast Transformation Kit is shipped at ambient temperature. Upon receipt, store at 4°C.

## 4. Important Considerations Before Use

If top agar is used for plating transformed yeast, it should be identical to the plate agar except with half the concentration of agar. It should not be warmer higher than 50°C.

## 5. Protocol

1. Inoculate a single colony into 100 mL YPD (YEPE) Broth (MP Biomedicals Catalog # 4001-021) and grow with aeration at 30°C to mid log,  $2 \times 10^6$  -  $2 \times 10^7$  cells/mL (Approximately 12-24 hours).
2. Spin to pellet cells at 400 x g for 5 minutes; discard supernatant.
3. Resuspend cells in a total of 9 ml TE, pH 7.5. Spin to pellet cells and discard supernatant.
4. Gently resuspend cells in 5 mL Lithium/Cesium Acetate Solution.
5. Incubate at 30°C for 30 minutes with gentle shaking.
6. Spin at 400 x g for 5 minutes to pellet cells and discard supernatant.
7. Gently resuspend in 1 mL TE, pH 7.5. Cells are now ready for transformation.
8. In a 1.5 mL tube combine:
  - 100  $\mu$ L yeast cells
  - 5  $\mu$ L Carrier DNA
  - 5  $\mu$ L Histamine Solution
  - 0.01-1.0  $\mu$ g plasmid DNA in a 10  $\mu$ l volume (max)Gently mix and incubate at room temperature for 15 minutes.
9. In a separate tube, combine 0.8 mL PEG and 0.2 mL TE/Cation MIXX for each transformation reaction. Add 1 mL of this PEG/TE/Cation MIXX to each transformation reaction. Mix cells into solution with gentle pipetting.
10. Incubate at 30°C for 10 minutes.
11. Heat shock at 42°C for 10 minutes; cool to 30°C.
12. Pellet cells in a microcentrifuge at 14,000 x g for 5-10 seconds and remove supernatant.

13. Resuspend in 200  $\mu$ L SOS and plate in appropriate selective media either directly or in top agar. (see Section 4). Incubate at 30°C for 48-72 hours until transformant colonies appear.

## 6. Recommended Reference Format for Publications

(Specific sample) cells were transformed using the Alkali-Cation™ Yeast Transformation Kit (MP Biomedicals, Santa Ana, CA).

## 7. Related Products

### Yeast Kits and Accessories:

#### Yeast Spheroplast Transformation Kit

Application: Screening cDNA libraries for complementation, or for construction of YAC libraries

<u>Quantity</u>	<u>Cat #</u>
25 preps	112210200

#### EZ Yeast™ Transformation Kit

Application: High throughput transformation without making competent cells

<u>Quantity</u>	<u>Cat #</u>
200 preps	112100200

#### Whole Cell Yeast PCR Kit

Application: High throughput direct PCR amplification of yeast colonies without purifying DNA

<u>Quantity</u>	<u>Cat #</u>
500 preps	112016200

#### Yeast Cell Lysis Kit

Application: Used with GNOME® DNA Isolation Kit to isolate yeast genomic DNA

<u>Quantity</u>	<u>Cat #</u>
100 preps	112015600



### Yeast RPM™ Kit

Application: Isolation of plasmid DNA from yeast

<u>Quantity</u>	<u>Cat #</u>
100 preps	112069400

### FastDNA™ Kit

Application: Isolation of genomic DNA from yeast or virtually any source

<u>Quantity</u>	<u>Cat #</u>
100 preps	116540400

### FastRNA™ Kit. Red

Application: Isolation of total RNA from yeast, algae or fungi

<u>Quantity</u>	<u>Cat #</u>
100 preps	116030600

### FastPROTEIN™ Red Kit

Application: Isolation of protein from yeast

<u>Quantity:</u>	<u>Cat #</u>
50 preps	116550600
100 preps	116550700

### Replica Plating Apparatus

This hardwood replica plating apparatus is made from fallen trees. It can be used with velvet, gauze, or even paper towels.

<u>Description</u>	<u>Quantity</u>	<u>Cat #</u>
Replica Plating Apparatus (100 mm)	1	115000001
Replica Plating Apparatus (150 mm)	1	115000004
Velvet Pad for 100 mm plates (6 sq in.)	1	115000006
Velvet Pad for 100 mm plates (6 sq in.)	10	115000007
Velvet Pad for 150 mm plates (9 sq in.)	1	115000008
Velvet Pad for 150 mm plates (9 sq in.)	10	115000009

## Yeast Growth Media:

### Standard Formulations

#### YPD (YEPD) Broth

Contents/L: 20 g peptone, 10 g yeast extract-Y, 20 g dextrose

<u>Description</u>	<u>Quantity</u>	<u>Cat #</u>
Large Capsules	227 g	114001016
Capsules	227 g	114001011
Powder	227 g	114001012
Pouch, 0.5 L	10 x 0.5 L	114001065
Pouch, 1.0 L	10 x 1.0 L	114001075

#### YPD Agar

Contents/L: YPD, 17 g Agar-Y

<u>Description</u>	<u>Quantity</u>	<u>Cat#</u>
Capsules	227 g	114001211
Powder	227 g	114001212
Pouch, 0.5 L	10 x 0.5 L	114001265
Pouch, 1.0 L	10 x 1.0 L	114001275

#### DOB

Contents/L: 1.7 g YNB, 5 g Ammonium Sulfate, 20 g Dextrose

<u>Description</u>	<u>Quantity</u>	<u>Cat #</u>
Powder	227 g	114025012
Pouch, 0.5 L	10 x 0.5 L	114025065
Pouch, 1.0 L	10 x 1.0 L	114025075

#### DOBA

Contents/L: DOB, 17 g Agar-Y

<u>Description</u>	<u>Quantity</u>	<u>Cat #</u>
Powder	227 g	114025212
Pouch, 0.5 L	10 x 0.5 L	114025265
Pouch, 1.0 L	10 x 1.0 L	114025275

#### YNB

Contents/L: Standard Formulation

<u>Description</u>	<u>Quantity</u>	<u>Cat #</u>
Powder	227 g	114027012



### YNB w/ Ammonium Sulfate

Contents/L: YNB, 5 g Ammonium Sulfate

<u>Description</u>	<u>Quantity</u>	<u>Cat #</u>
Powder	227 g	114027512

### Complete Supplement Mixture (CSM)

<u>Description</u>	<u>Quantity</u>	<u>Cat #</u>
CSM powder	10 g	114500012
CSM-HIS powder	10 g	114510312
CSM-LEU powder	10 g	114510512
CSM-TRP powder	10 g	114511012
CSM-URA powder	10 g	114511212

\* Other formulations available

### Pre-poured Plates

<u>Description</u>	<u>Quantity</u>	<u>Cat #</u>
YPD Agar	10 plates	114001224
CSM-LEU	10 plates	114811124
CSM-TRP	10 plates	114812124
CSM-URA	10 plates	114813124

### Yeast Growth Media Additives and Components

#### Agar-Y

<u>Description</u>	<u>Quantity</u>	<u>Cat#</u>
Capsules	227 g	114019011
Powder	227 g	114019012

#### 5-FOA

<u>Description</u>	<u>Quantity</u>	<u>Cat #</u>
Powder	1 g	114066102

#### 3-AT

<u>Description</u>	<u>Quantity</u>	<u>Cat #</u>
Powder	50 g	114061722

## 8. Product Use Limitation & Warranty

The products presented in this instruction manual are for research or manufacturing use only. They are not to be used as drugs or medical devices in order to diagnose, cure, mitigate, treat or prevent diseases in humans or animals, either as part of an accepted course of therapy or in experimental clinical investigation. These products are not to be used as food, food additives or general household items. Purchase of MP Biomedicals products does not grant rights to reproduce, modify, or repackage the products or any derivative thereof to third parties. MP Biomedicals makes no warranty of any kind, expressed or implied, including merchantability or fitness for any particular purpose, except that the products sold will meet our specifications at the time of delivery. Buyer's exclusive remedy and the sole liability of MP Biomedicals hereunder shall be limited to, at our discretion, no replacement or compensation, product credits, refund of the purchase price of, or the replacement of materials that do not meet our specification.

By acceptance of the product, Buyer indemnifies and holds MP Biomedicals harmless against, and assumes all liability for, the consequence of its use or misuse by the Buyer, its employees or others, including, but not limited to, the cost of handling. Said refund or replacement is conditioned on Buyer notifying within thirty (30) days of receipt of product. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by the Buyer of all claims hereunder with respect to said material(s). FastDNA™, FastRNA™, FastPrep®, QBiogene®, and BIO 101® Systems are registered trademarks of MP Biomedicals, LLC.

---

[www.mpbio.com](http://www.mpbio.com)



## Instruction Manual

# Alkali-Cation Yeast Transformation Kit

Protocol Revision # 112200200 - 12May

## Worldwide Ordering and Technical Support

### United States of America

#### Worldwide Headquarters

Tel: +1.440.337.1200

Toll Free Tel: 800.854.0530

Fax: +1.440.337.1180

Toll Free Fax: 800.334.6999

### Europe

Toll Free Phone:

00800.7777.9999

Toll Free Fax: 00800.6666.8888

### Australia

#### MP Biomedicals Australasia Pty Ltd

Tel: +61.2.9838.7422

Fax: +61.2.9838.7390

### Belgium

#### MP Biomedicals

Tel: 02 466 00 00

Fax: 02 466 26 42

### Canada

#### MP Biomedicals Canada

Tel: 888.362.5487

Fax: 514.935.7541

### France

#### MP Biomedicals France

Tel: 03 88 67 54 25

Fax: 03 88 67 19 45

### Germany

#### MP Biomedicals

Phone: 0800 426 67337

Fax: 0800 629 67337

### Japan

#### MP Bio Japan K.K.

Tel: 03-3808-2102

Toll Free Tel: 0120.788.020

Fax: 03-3808-2401

### The Netherlands

#### MP Biomedicals Netherlands

Tel: 0800-0227416

Fax: 0800-0227489

### Poland

#### MP Biomedicals Poland

Tel: +48.22.659.58.95

Fax: +48.22.658.45.05

### Serbia

#### MP Global d.o.o.

Tel: +381.11.2622.945

Fax: +381.11.2623.373

### Singapore

#### MP Biomedicals Singapore

Tel: 65.6775.0008

Fax: 65.6775.4536

### Switzerland

#### MP Biomedicals Switzerland

Tel: 061 271 0007

Fax: 061 271 0084

### United Kingdom

#### MP Biomedicals UK

Tel: 0800 282 474

Fax: 0800 614 735

[www.mpbio.com](http://www.mpbio.com)

MP Biomedicals • 29525 Fountain Parkway • Solon, OH 44139 • tel: 1.800.854.0530 • fax: 1.800.334.6999

