



MSU440 Chemically Competent Agrobacterium

Manual

Catalog #	1074-06	1074-18
Package Size	6x50 µl	18x50 µl



Important!

-80°C Storage Required

- * Immediately inspect packages
- * Freeze upon receipt



visit us online for more
products & custom services

Intact Genomics, Inc.

Table of Contents

Product Description.....	3
Specifications.....	3
Components and Storage.....	3
Quality Control.....	4
General Guidelines.....	4
Calculation of Transformation Efficiency.....	4
Transformation Protocol.....	5
Related Products.....	6
Ordering Information.....	6
Technical Support.....	7

Description:

Intact Genomics (ig®) MSU440 Chemically Competent Agrobacterium cells are made from a specific strain of *Agrobacterium rhizogenes*, *Agrobacterium rhizogenes* (str R) MSU440 Ri (agropine type). *Agrobacterium rhizogenes* is a soil-borne gram-negative bacterium that can infect most dicotyledons, a few monocotyledons and some gymnosperms. MSU440 Chemically Competent Agrobacterium are optimized for the highest transformation efficiencies and are useful for transgenic operations of corn, tobacco, wormwood, tea tree and other plants. MSU440 *Agrobacterium rhizogenes* strain contains agrobacterium-type Ri plasmid and displays streptomycin resistance.

Specifications:

Competent cell type: Chemically Competent

Species: *A. rhizogenes*

Strain: MSU440

Format: Tubes

Transformation Efficiency: $\geq 1 \times 10^5$ cfu/ μ g pCAMBIA1391z DNA

Blue/white screening: No

Shipping condition: Dry ice

Product Components:

- ig® MSU440 Chemically Competent Agrobacterium
- DNA (pCAMBIA1391z ,500 pg/ μ l)
- Recovery medium

Note: Liquid nitrogen is required.

Storage:

- MSU440 Chemically Comp. Agrobacterium: -80 °C
- pCAMBIA1391z control DNA: -20 °C
- Recovery medium: 4 °C

Quality Control:

Transformation efficiency is tested by using the pCAMBIA1391z control DNA supplied with the kit and using the protocol in this manual. Transformation efficiency should be $\geq 1 \times 10^5$ CFU/ μ g pCAMBIA1391z DNA. Untransformed cells are tested for appropriate antibiotic sensitivity.

General Guidelines:

Follow these guidelines when using MSU440 Chemically Competent Agrobacterium cells:

- Handle competent cells gently as they are highly sensitive to changes in temperature or mechanical lysis caused by pipetting.
- Thaw competent cells on ice and transform cells immediately following thawing. After adding DNA, mix by tapping the tube gently. Do not mix cells by pipetting or vortexing.

Calculation of Transformation Efficiency:

Transformation Efficiency (TE) is defined as the number of colony forming units (cfu) produced by transforming 1 μ g of plasmid into a given volume of competent cells.

$$TE = \text{Colonies}/\mu\text{g}/\text{Plated}$$

Transform 1 μ l of (500 pg/ μ l) pCAMBIA1391z control plasmid into 50 μ l of cells, add 950 μ l of Recovery Medium. Recover for three hours and plate 100 μ l. Count the colonies on the plate in two days. If you count 5 colonies, the TE is calculated as follows:

$$\text{Colonies} = 5$$

$$\mu\text{g of DNA} = 0.0005$$

$$\text{Dilution} = 100/1000 = 0.1$$

$$TE = 5/.0005/.1 = 1 \times 10^5$$

Transformation Protocol:

Use this procedure to transform ig[®] MSU440 Chemically Competent Agrobacterium Cells. Do not use these cells for electrocompetent transformation.

- 1) Place microcentrifuge tubes on ice.
- 2) Remove competent cells from the -80 °C freezer and thaw completely on wet ice (10-15 minutes).
- 3) Aliquot 1 µl (10pg -1 µg) of DNA to the chilled microcentrifuge tubes on ice.
- 4) When the cells are thawed, add 50µl of cells to each DNA tube on ice and mix gently by tapping 4-5 times. For the pCAMBIA1391z control, add 1 µl of (500 pg/ µl) DNA to the 50 µl of cells on ice. Mix well by tapping. Do not pipette up and down or vortex to mix, this can harm cells and decrease transformation efficiency.
- 5) Keep tubes on ice for 5 minutes, and then transfer to liquid nitrogen for 5 minutes.
- 6) Incubate tubes for additional 5 minutes in 37°C water bath.
- 7) Immediately add 950µl of Recovery Medium or any other medium of choice to the tube, pipette up and down three times to re-suspend the cells.
- 8) Incubate tubes at 30 °C for 3 hours at 200 RPM.
- 9) Dilute the cells as appropriate then spread 20-200 µl cells onto a pre-warmed selective plate. For the pCAMBIA1391z control, you may plate 100 µl of undiluted transformation mix onto a YT plate containing 50 µg/ml kanamycin. Use sterilized spreader or autoclaved ColiRoller™ plating beads to spread evenly.
- 10) Incubate the plates for 2 - 3 days at 30 °C.

Related Products:

- GV3101 Chem. Competent Agrobacterium (Cat.# 1082-12)
- EHA105 Chem. Competent Agrobacterium (Cat.# 1084-12)
- MSU440 ElectroCompetent Agrobacterium (Cat.# 1274-12)
- Agrobacterium Chemical Combo Pack (Cat.# 1090-24)
- T4 DNA Ligase (Cat.# 3212)

Ordering Information:

- Order online within the USA. Place orders on **www.intactgenomics.com** using our secure Shopping Cart.
- Order by email, phone, or fax.

Email: **sales@intactgenomics.com**

Phone: (314) 942-3655 | Toll-free : 855-835-7172 | Fax: (314) 942-3656

- Order via our distributors.

Intact Genomics owns the following registered trademarks granted by the United States Patent and Trademark Office (USPTO): Intact Genomics®, IG®, ig®, igTherapeutics®, FastAmp®, i7®, DirectPlate®.

All technology protocols discussed within this manual are assumed proprietary to Intact Genomics. This Product may be covered by pending or issued patents or may have certain limitations. Please contact us for more information. Purchase of this material conveys to buyer the non-transferable right to use the material purchased in research conducted by buyer, whether for teaching, non-commercial or commercial research purposes. Buyer may not sell or otherwise transfer these materials, its components, or unmodified descendants to a third party.

Product Use Limitation and Disclaimers

This product is for research purposes only. It is not intended for therapeutic or diagnostic purposes in humans or animals. This product contains chemicals which may be harmful if misused or direct human contact is made.

Intact Genomics is dedicated to practicing and maintaining science and technology ethics. Buyer agrees to use the purchased materials in full compliance with applicable law and regulations.

Technical Support & Customer Services

Intact Genomics (IG®) is dedicated to customer satisfaction regarding the use of our products for your research needs. Each new lot of our products is thoroughly tested to ensure it meets high quality standards and provides excellent results. We appreciate your business and your feedback regarding the performance of our products in your applications. Please follow the instructions carefully and contact us if additional assistance is needed.

Our hours are Monday - Friday, 8AM to 5PM, U.S. Central Standard Time.

Intact Genomics, Inc.

11840 Westline Industrial Drive, Suite 120,
St. Louis, MO. 63146, USA

Phone: (314) 942-3655 | **Toll-free :** 855-835-7172 | **Fax:** (314) 942-3656

Email: sales@intactgenomics.com | ig@intactgenomics.com

Website: www.intactgenomics.com

© 2024 Intact Genomics, Inc
All Rights Reserved

