Ez C-cell *E. coli* BL21(DE3) (10^6 CFU/μg efficiency)

Cat. 15066 20 tests

DESCRIPTION

Ez C-cell *E. coli* BL21(DE3) is a high-efficiency competent cell product designed for protein expression, created using a chemical modification method. Optimized for subcloning applications, this product offers a transformation efficiency of 10^6 CFU/μg, allowing users to quickly and accurately clone their desired genes.

Ez C-cell is provided in convenient, aliquoted units, making it easy to use. Each package includes SOC broth for recovery culture, and plating beads are also provided to facilitate easy spreading on agar plates.

This product contains an Enhancer that boosts transformation efficiency, ensuring effective and reliable results. Ez C-cell *E. coli* BL21(DE3) is designed to enable users to perform cloning quickly, easily, and consistently. This simplification allows researchers to focus on their protein expression and research goals without getting bogged down in complex procedures.

Ez C-cell excels in various applications, including life science research, recombinant protein production, and enzyme activity studies, delivering outstanding performance. It sets a new standard in protein expression and significantly enhances research efficiency.

KEY FEATURES

- **Transformation Efficiency:** Provides suitable transformation efficiency for subcloning applications.
- **User Convenience:** Offered in aliquoted C-cell units, including SOC broth and plating beads for easy use.
- **Inclusion of Enhancer:** Contains an Enhancer to improve transformation efficiency, ensuring reliable and effective results.
- **Rapid Growth Rate:** The BL21(DE3) strain exhibits fast growth, facilitating the production of large cell quantities.
- **Versatile Applications:** Suitable for recombinant protein production, enzyme studies, and various life science applications.

CONTENTS

- C-cell BL21(DE3) : 30 μℓ/tube × 20 tubes
- Enhancer Solution : 500 μℓ/tube × 1 tube
- SOC broth : 1.7 ml/tube × 6 tubes
- Plating bead : 60~70 beads/tube × 2 tubes
- Control DNA (10 pg/μℓ of pUC18) : 50 μℓ/tube × 1 tube

STORAGE CONDITION

- Store at or below -80°C until the expiration date indicated.
- Avoid freeze-thaw cycles and do not reuse.

GENOTYPE

- F- dcm ompT hsdS(rB- mB-) gal (DE3)

PROTOCOL

1. Take the required C-cell BL21(DE3) tubes and Enhancer Solution, and place them on ice to thaw.
   Note : At the same time, place LB agar plates with the right antibiotic in a 37°C incubator to warm up.
2. Add 20μL of Enhancer Solution to the thawed C-cell, then add 1–5μL of DNA. Gently tap the tube to mix thoroughly.
3. Keep the mixture on ice for 30 minutes.
4. Heat shock the mixture at 42°C for 60 seconds.
   Note : Be careful not to shake the mixture of cells and DNA.
5. Immediately move the tube back to ice and let it sit for another 3 minutes.
6. Add 450 μL of SOC broth to the tube and incubate it at 37°C for 1 hour.
   Note : Be careful to avoid contamination, as SOC broth can easily get contaminated.
7. Transfer 50-100 μL of the culture to the warmed agar plate. Then, add 5-6 plating beads and gently shake to spread the culture evenly on the plate. Then discard the beads after spreading.
8. Incubate overnight to check for transformed colonies.
   Note : Be careful not to incubate too long, as this may cause the formation of satellite colonies.

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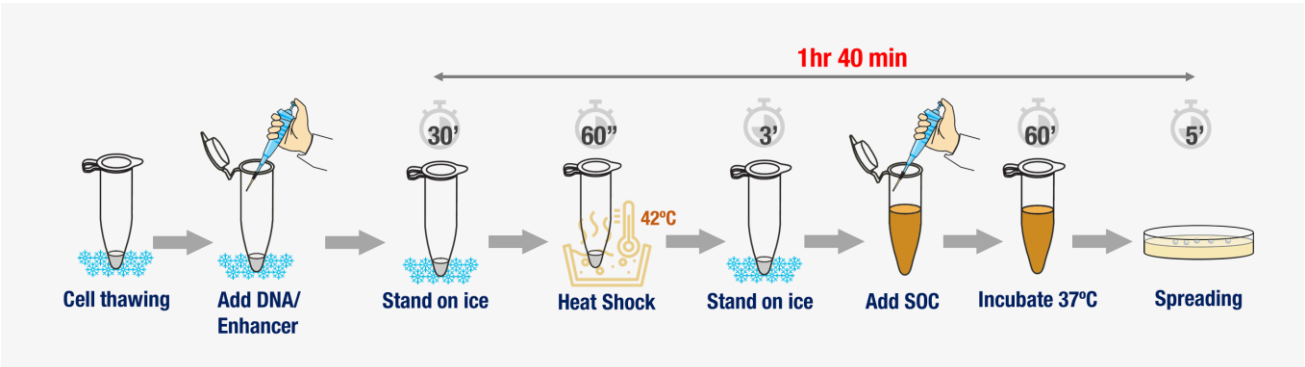
ORDERING INFORMATION

Product	Specification	Cat No.
Ez C-cell *E. coli* DH5α	20 T	15065
Ez C-cell *E. coli* BL21(DE3)	20 T	15066
pLUG-Prime® TA-cloning Vector Kit II	20 rxn.	11063
DNA-spin™ Plasmid DNA Purification Kit	200 col.	17098
MEGAquick-spin™ Plus Total Fragment DNA Purification Kit	200 col.	17290
IPTG Solution(0.1M)	20 ml	IBS-BI001

TROUBLESHOOTING GUIDE

Observation	Possible Cause	Recommendation
Low Transformation Efficiency	Cells were not stored properly.	Ensure competent cells are stored at -80°C and not thawed repeatedly.
	Heat shock duration or temperature was incorrect.	Verify the heat shock temperature (42°C) and time (90 seconds) are accurate.
	DNA quality is poor or degraded.	Use fresh, high-quality DNA and check its concentration.
No Colonies Formed	Incorrect antibiotic concentration or not using antibiotic.	Confirm that the correct antibiotic is used and at the correct concentration.
	Transformation mixture was not incubated long enough in SOC broth.	Extend the incubation time in SOC broth to 1-2 hours.
Satellite Colonies Present	Plasmid or insert size may affect colony growth.	Consider using a different plasmid or check compatibility of the insert with the host.
Background Growth on Control Plates	Contamination or non-specific growth on the agar plates.	Use sterile techniques and ensure that all reagents are free from contamination. Replace agar plates if necessary.
Unexpected Results	Incomplete protocols or variations in experimental conditions.	Review the protocol steps carefully and ensure all conditions (temperature, time, and reagents) are followed accurately.

OVERVIEW OF TRANSFORMATION PROTOCOL



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