Ez C-cell *E. coli* DH5α (10^8 CFU/μg efficiency)

Cat. 15065 20 tests

DESCRIPTION

Ez C-cell *E. coli* DH5α is a high-performance Competent Cell produced using a chemical modification method, offering the optimal solution for cloning and library construction. With a transformation efficiency of 10^8 CFU/μg of DNA, this product is designed to enable researchers to perform DNA cloning more easily and rapidly.
To maximize user convenience, Ez C-cell is provided in individual C-cell units, allowing researchers to use only the required amount and efficiently store any leftovers. Additionally, it comes with SOC broth for recovery culture and plating beads that facilitate easy spreading on agar plates, minimizing hassle during the experimental process. These features significantly enhance experimental consistency and improve the overall user experience.
One of the standout aspects of Ez C-cell is its Superfast Protocol, which reduces the traditional cloning process, typically taking 1 hour and 40 minutes, to just 5 minutes. This time-saving capability allows researchers to maximize their productivity and conduct more experiments efficiently.
Ez C-cell *E. coli* DH5α supports users in achieving quick, reliable, and consistent cloning results, thereby increasing the success rate of experiments and maximizing research efficiency. This product sets a new standard for cloning workflows, promising better outcomes for researchers.

KEY FEATURES

- **High Transformation Efficiency**: Offers an impressive 10^8 CFU/μg of pUC18 DNA transformation efficiency for rapid results.
- **Convenient Packaging**: Provided in individual C-cell units, allowing users to use only the required amount.
- **Optimized Recovery Culture**: Includes SOC broth to maximize cell recovery.
- **Easy Plating**: Comes with plating beads for effortless spreading on agar plates.
- **Rapid Protocol**: Superfast Protocol enables completion of traditional methods in just 5 minutes.
- Consistent Results: User-friendly design ensures high success rates.

CONTENTS

- C-cell DH5α : 50 μℓ/tube × 20 tubes
- 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- φ80lacZΔM15 Δ(lacZ)M15 endA1 recA1 hsdR(rK−, mK+) hsdM(mK+) supE44 thi-1 gyrA96 relA1.

PROTOCOL

1. Take the desired number of C-cell DH5α tubes from the ice and let them thaw on ice.
   Note : At the same time, place LB agar plates with the right antibiotic in a 37°C incubator to warm up.
   Note : If you are using a plasmid for blue/white colony selection, add X-gal and IPTG to the agar.
2. Add 1-5 μL of the DNA you want to transform into the thawed cells, then gently tap the tube to mix.
3. Keep the mixture on ice for 30 minutes.
4. Heat shock the mixture at 42°C for 90 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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SUPERFAST PROTOCOL

1. Warm up the appropriate agar plates in a 37°C incubator for at least 30 minutes.
2. Take the C-cell DH5α tube out and thaw it on ice. Add 1-5 µL of the DNA to be transformed and gently tap to mix thoroughly.
3. Transfer the entire mixture to the warmed agar plate, add 5-6 plating beads, and gently shake to spread evenly. Discard the beads after spreading.
4. Incubate overnight to check for colonies. Be cautious of excessive incubation, as this may lead to the formation of satellite colonies.

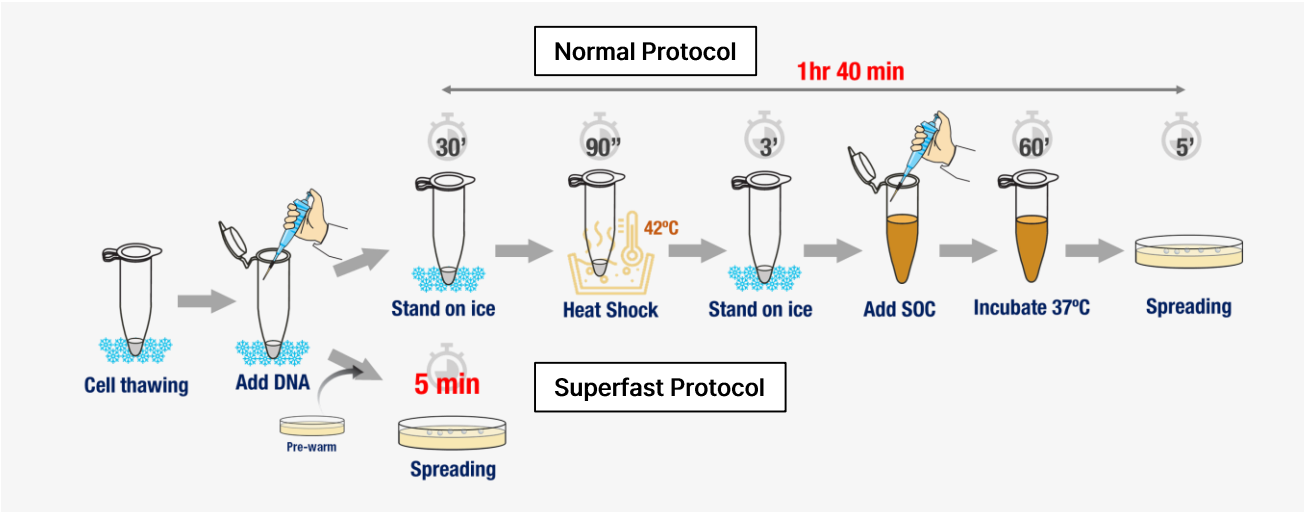
ORDERING INFORMATION

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.
Blue/White Screening Not Working	X-gal or IPTG may not be added correctly. The plasmid may not contain the proper lacZ gene for blue/white screening.	Double-check the addition of X-gal and IPTG to the agar plates. Ensure they are fresh and properly mixed. Verify that the plasmid has the correct features for blue/white screening.
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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