# Hole In One DH5α Competent Cell

| Cat# | Product | Efficiency | Size |
|---|---|---|---|
| HIO5a-10 | Hole In One DH5α Competent Cell | $1.0X10^8$ | 50ul*11ea |

## Components

Competent cell : 50 µl*11ea

S.O.C medium : 2 ml*4ea

pUC19 plasmid DNA : 100 ng (10ng/ul)

## Storage Conditions : Freeze (-80℃)

Stable for a minimum of 1 years from date of receipt at Freeze Temperature

## Bacterial Strain : DH5α

## Genotype :

F- ( 80d lacZ M15) (lacZYA-argF) U169 hsdR17(r - m +) recA1 endA1 relA1 deoR

## Competent cell type : Chemically Competent

## Description :

Competent cells are E. coli cells that have been specially treated to transform efficiently. Cell competence refers to cell's ability to take up foreign DNA from its surrounding environment. Competent cells have a much higher capacity for binding DNA to the cell surface than do noncompetent cells. Competent cells are suitable for molecular cloning to propagate and maintain cloned DNA in plasmids.

## Applications :

- General molecular cloning, subcloning, TA cloning.
- Blue/white screening.
- Propagate and maintain cloned DNA in plasmids.
- Ideal for generation of cDNA libraries using plasmid-derived vectors
- Site-directed mutagenesis

## Guidelines for transformation

- For best results, use each vial of cells only once. Repeating freeze-thaw cycles decrease efficiency.
- It is more efficient when spreading with plating glass beads than using spreader.
- Recovery step is important to increase transformation efficiency.

  It is best to use S.O.C medium.
- Maximun transformation efficiency is obtained with plasmid DNA.

  Transformation of unpurified sample DNA or ligation product will reduce transformation efficiencies.

## Transformation Protocol : Standard protocol

1. Thaw on ice, one vial of Hole in One DH5a competent cells for each transformation.
2. Add 1 to 5 ul of the DNA (10 pg to 100 ng) into a vial of competent cells and mix gently.
3. Do not mix by pipetting up and down.
4. Incubate the vial(s) on ice (4℃) for 30 min.
5. Heat-shock the cells for 30 sec. at 42℃ without shaking.
6. Place the mixture on ice (4℃) for 2 min.
7. Add mixture to the 250 µl of pre-warmed S.O.C media.
8. Cap the vial(s) tightly and shake at 37℃ for 1 hr. at 225rpm in a shaking incubator.
9. Spread 20-200 ul from each transformation on a pre-warmed selective plate and incubate overnight at 37℃ (If necessary, dilute the cells with LB medium.)

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