

Allele

Xtreme Efficiency DH5α Competent Cells

DH5α is one of the most commonly used *E. coli* strain for plasmid transformation. Xtreme Efficiency DH5α Competent Cells are prepared with unique salt compositions and procedures that result in significantly higher transformation efficiency than those by traditional lab protocols using CaCl₂ buffers. Allele's competent cells are quality controlled by direct comparison to other leading brands of similar products in transformation of ligated plasmids. Xtreme Efficiency DH5α Competent Cells are suitable for propagation of plasmids of all sizes and preparations. They are recommended for difficult constructs that often yield low colony counts. These competent cells are suitable for quick 3min protocols and possess an efficiency of consistently above 1 x 10⁹ cfu/μg of supercoiled pUC19 plasmid DNA. Colony counts are much higher than DH5α Competent Cells from other leading suppliers, especially when transforming ligation reactions. They are conveniently packaged in 60 μl aliquots, no repeated freezing in dry ice and alcohol bath. Colonies can be analyzed using blue/white screening when grown in the presence of X-gal.

Box 1 | Product List

Xtreme Efficiency DH5α Competent Cells	
ABP-CE-CC02005	5 x 60μl
ABP-CE-CC02020	20 x 60μl
ABP-CE-CC02050	50 x 60μl

Genotype

F'/endA1 hsdR17(rK-mK+) supE44 thi-1 recA1 gyrA
(Nal^r) relA1 D(lacIZYA-argF)U169 deoR (F80dlacD(lacZ)
M15)

Box 2 | Storage

Store at -80°C

It has been observed that long term storage of competent cells at -80°C can actually cause the cells to adapt by increasing the recombination rate. Therefore, Allele prepares its competent cells frequently at small scales. It is recommended that competent cells be used within 3 months after arrival.

Protocol

For each transformation, thaw one tube of pre-aliquoted cells on ice.

1. Mix DNA and cells, incubate on ice for 1-2 min.
2. Heat shock in 42°C water bath for 45 sec, or in 37°C water bath for 1.5 min.
3. After heat-shock, incubate the reaction on ice for 1 min and spread on plate directly.
4. The typical 1 hour growing in plain LB may generate 2-3 fold more colonies but is not necessary in most cases.