

SC33 High Efficiency Competent Cells, High transformation efficiency



SC33 HE Competent Cells are ideal for generation of high-difficulty constructs and propagation of large-size or low concentration plasmids. Compared to typical self-made competent cells with the CaCl₂ treatment, the SC33 Competent Cells consistently provide much higher transformation efficiency: 1 x 10⁸ cfu/μg of supercoiled pUC19 plasmid DNA (cfu: colony forming units). The strain is stable in maintaining low level of recombination.

Each tube contains 60μl of pre-aliquoted competent cells. SC 33 HE 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 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. Allele's SC33 HE competent cells are recommended for transformation of methylated DNA using genomic preparations as inserts.

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.

Box 1 | Product List

SC33 High Efficiency Competent Cells	
ABP-CE-CC01005	5 x 60μl
ABP-CE-CC01020	20 x 60μl
ABP-CE-CC01060	50 x 60μl
ABP-CE-CC01096	96 x 60μl

Genotype

mcrA, Δ(mrr-hsdRMS-mcrBC), Φ80lacZΔM15, ΔlacX74, deoR, recA1, araD139, Δ(ara-leu)7697, galU, galK, rpsL, endA1, nupG

Box 3 | Comparison



Comparison of SC33 HE cells (left) with competent cells from a commonly used competitor (right). One aliquot of competent cells was used for standard transformation with 1x10⁻¹¹g of pUC19 plasmid. The cells were incubated on ice for 30 min, heat-shocked at 37°C for 1.5 min, grown in 1 ml LB media for 1 hr with 250 rpm rotation

Related Products

- ✧ **Allele Competent Cells Spreading Beads**
 - ◆ Provide convenience and to increase efficiency when spreading transformed bacterial or yeast cells.

- ✧ **Xtreme DH10β Electrocompetent Cells**
 - ◆ Most commonly used E.coli strain for high efficiency plasmid transformation by electroporation.