NEW Competent Cells Strains & Custom Competent Cells

Table 1. Characteristics of cloning and expression strains.

Cloning Strains

Strain Attribute	10G (DH10B)	5-alpha (DH5α)
T1 Phage Resistant	✔	
Blue/White Screen	✔	✔
LacIq Repressor		
Endonuclease I Deficient	✔	✔
Methylated DNA Cloning	✔	
Express M13 Phage (F´)		
RecA Deficient	✔	✔
Expression Strain		
Strain Attribute	TG1	
Blue/White Screen	✔	
LacIq Repressor	✔	
Protease Deficient		
Methylated DNA Cloning	✔	
Express M13 Phage (F´)	✔	

***E. cloni*® 5-alpha Chemically Competent Cells** are versatile and useful in a wide variety of applications, including routine cloning, subcloning, and plasmid isolation with or without blue/white screening. The efficiency of transformation is ≥1 x 10^8 cfu/µg pUC19 DNA. These economical cells are equivalent to DH5α and are packaged as DUOs (two transformations per tube) or in 96-well plates (4 × 24 well sections). See Table 1 for Attributes and Applications.

TG1 Electrocompetent Cells deliver ≥ 2 x 10^{10} cfu/µg of DNA, at least twice the transfomation efficiency of TG1 cells from other vendors. TG1 cells are the cells of choice for phage display protein expression. They are also suitable for M13 phage work, general cloning, blue/white screening, and protein expression. TG1 cells are packaged as DUOs.

In addition to these strains, ***E. cloni* 10G Chemically Competent Cells are now available in 96-well plate format** with 4 X 24-well sections. *E. cloni* 10G cells are equivalent to DH10B, except they have been optimized for high efficiency transformation (≥1 x 10^8 cfu/µg pUC19 DNA). The chemically competent cells in microplates are perfect for high throughput applications. They give high yield and high quality plasmid DNA due to the *rec*A and *endA1* mutations. *E. cloni* 10G cells contain the *mcr* and *mrr* mutations, allowing methylated genomic DNA that has been isolated directly from mammalian or plant cells to be cloned without deletions or rearrangements. See Table 1 for Attributes and Applications. Electrocompetent *E.cloni* 10G cells are also available with transformation efficiencies up to ≥ 4 x 10^{10} cfu/µg.

Genotypes:

***E. cloni* 5-alpha (DH5α)**

*fhuA2*Δ(*argF-lacZ)U169 phoA glnV44* Φ*80* Δ*(lacZ)M15 gyrA96 recA1 relA1 endA1 thi-1 hsdR17*

TG1

supE thi-1 Δ(*lac-pro*AB) Δ(*mcr*B-*hsd*SM)5(rK– mK–) [F´ *tra*D36 *pro*AB *lac*IqZ Δ*M15*]

***E. cloni* 10G (DH10B)**

F - *mcr*A Δ(*mrr-hsd*RMS-*mcr*BC) *end*A1 *rec*A1 Φ80d*lac*Z ΔM15 Δ*lac*X74 *ara*D139 Δ(*ara,leu*)7697 *gal*U *gal*K *rps*L *nup*Gλ- *ton*A

Transformance™ Custom Competent Cell Service

Need to make your cells highly competent for transformation? Take advantage of Lucigen's unrivalled expertise and proprietary methods of competent cell manufacturing. Lucigen's capabilities are proven by our success in developing cells with the highest transformation efficiencies available: *E. cloni* ELITE (≥2 x 10^{10} cfu/µg DNA) and SUPREME (≥ 4 x 10^{10} cfu/µg DNA) Competent Cells.

Lucigen's Transformance Custom Competent Cell Service offers

- Construction of chemically competent or electrocompetent cells
- High transformation efficiencies
- Fast turnaround
- Quality control performance testing
- Large or small quantities

Excellent results are obtained with a wide variety of *E. coli* strains (see Table 2 for examples). Lucigen has also increased transformation efficiencies of low competency strains by 10-100 fold in just a few days. Contact Lucigen for a free quote.

Table 2. Examples of Custom competent cell transformation efficiencies

Starting Sample	Resulting Transformation Efficiency (cfu/µg)
Strain "A"	3.0 x 10^{10}
Strain "B"	2.4 x 10^{10}
Strain "C"	1.8 x 10^{10}
Strain "D"	2.5 x 10^9

ORDER INFORMATION

Competent Cells include Control DNA and Recovery Medium.

Product	Size	Cat. No.
E. cloni 5-alpha Chemically Competent Cells (DUOs)	12 rxns 24 rxns	60602-1 60602-2
E. cloni 5-alpha Chemically Competent Cells (96-well)	1 plate 4 plates	60696-1 60696-4
TG1 Electrocompetent Cells (DUOs)	12 rxns 24 rxns	60502-1 60502-2
E. cloni 10G Chemically Competent Cells (96-well)*	1 plate 4 plates	60096-1 60096-4

*PLEASE NOTE: *E. cloni* 10G Electrocompletent Cells are available in BTX 25-well electroporation strips and 96-well electroporation plates. Contact Lucigen for availability and pricing.

DH10B and DH5α are trademarks of Invitrogen Corporation.