



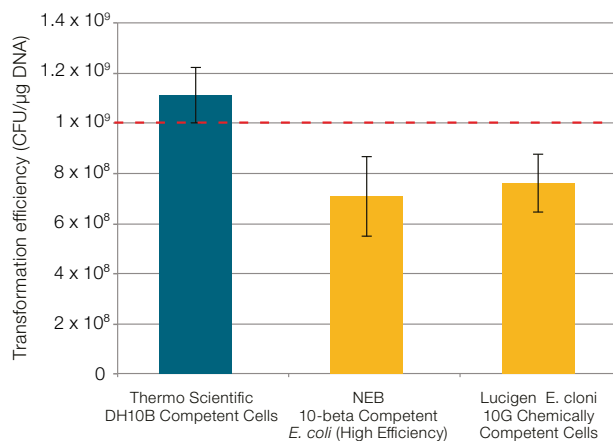
# Confidently competent

Thermo Scientific competent cells are produced with stringent QC to enable reliable, consistent performance

Thermo Scientific™ DH10B, DH5α, and BL21(DE3) Competent Cells are produced with stringent quality control (QC) to enable reliable, consistent performance in cloning workflows. DH10B Competent Cells are also included in the Thermo Scientific™ CloneJET™ PCR Cloning Kit and in the Thermo Scientific™ Phusion™ Site-Directed Mutagenesis Kit.

### Achieve high transformation efficiencies

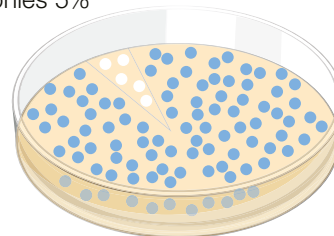
The transformation efficiencies of DH10B, NEB™ 10-beta, and Lucigen™ *E. coli*™ 10G competent cells were compared, using pUC19 DNA and following the manufacturers' recommended protocols. The transformation efficiency specification for DH10B competent cells is  $1.0 \times 10^9$  CFU/μg DNA (red dashed line). The values shown are the averages of five transformations. Error bars represent standard deviations.



### Efficient recovery of mutants

The Phusion Site-Directed Mutagenesis Kit has been tested using the control plasmid and control primer mix provided in the kit, in conjunction with DH10B Competent Cells. The primer mix reverts the mutated internal stop codon to a functional codon; a successful mutagenesis reaction results in blue colonies on ampicillin agar plates containing X-gal and IPTG. A high rate of mutagenesis and high transformation efficiency means that numerous mutants can be directly subjected to sequencing, eliminating additional analysis steps.

White colonies 5%



Blue colonies 95%

**Thermo Scientific stand-alone competent cells**



**DH10B Competent Cells**



**DH5a Competent Cells**



**DH5a Competent Cells for Subcloning**



**BL21(DE3) Competent Cells**

<b>Cat. No.</b>	EC0113	EC0112	EC0111	EC0114
<b>Quantity</b>	20 reactions 10 x 100 µL	20 reactions 10 x 100 µL	40 reactions 4 x 500 µL	20 reactions 10 x 100 µL
<b>Primary applications</b>	<ul style="list-style-type: none"> <li>• cDNA library</li> <li>• Gene bank construction</li> <li>• Cloning large plasmids and BACs</li> <li>• Site-directed mutagenesis</li> </ul>	<ul style="list-style-type: none"> <li>• Subcloning DNA and cDNA</li> <li>• Plasmid isolation</li> </ul>	<ul style="list-style-type: none"> <li>• Subcloning DNA and cDNA</li> </ul>	<ul style="list-style-type: none"> <li>• Protein expression (use with Thermo Scientific™ aLICator™ LIC Cloning &amp; Expression System)</li> </ul>
<b>Transformation efficiency (CFU/µg pUC19 DNA)</b>	> 1 x 10 <sup>9</sup>	> 1 x 10 <sup>9</sup>	> 1 x 10 <sup>6</sup>	> 1 x 10 <sup>7</sup>

**Thermo Scientific competent cell combination kits**



**CloneJET PCR Cloning Kit with DH10B Competent Cells**



**Phusion Site-Directed Mutagenesis Kit with DH10B Competent Cells**

<b>Cat. No.</b>	K123120, K123140	F542
<b>Quantity</b>	20 reactions, 40 reactions	20 reactions
<b>Application</b>	Advanced positive-selection system for high-efficiency cloning of PCR products	Site-directed mutagenesis

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