

# GoldBio Competent Cell Guide



Competent Cells	Transfection Efficiency	Applications and Characteristics
DH10B Chemically Competent <i>E. coli</i> Cells <a href="#">CC-100</a>	$\geq 1.9 \times 10^7$ CFU/ $\mu$ g	<ul style="list-style-type: none"> <li>• Cloning and subcloning</li> <li>• Blue/white screening (<math>\phi 80lacZ\Delta M15</math>)</li> <li>• <i>mcrA</i>, <i>mcrBC</i>, and <i>mrr</i> deletion for cloning of methylcytosine and methyladenine-containing DNA</li> <li>• F' strain for high transformation efficiency</li> <li>• Endonuclease deficient (<i>endA1</i>)</li> </ul>
DH5-alpha Chemically Competent <i>E. coli</i> Cells <a href="#">CC-101</a>	$\geq 1.9 \times 10^7$ CFU/ $\mu$ g	<ul style="list-style-type: none"> <li>• Cloning and subcloning</li> <li>• Blue/white screening (<math>\phi 80lacZ\Delta M15</math>)</li> <li>• Resistant to phage T1 (<i>fhuA2</i>)</li> <li>• Increased plasmid yield and quality (<i>endA1</i> mutation)</li> </ul>
BL21 Chemically Competent <i>E. coli</i> Cells <a href="#">CC-102</a>	$\geq 1.9 \times 10^7$ CFU/ $\mu$ g	<ul style="list-style-type: none"> <li>• Routine protein expression from non-T7 vectors</li> <li>• Deficient in Lon and OmpT proteases</li> <li>• Resistant to phage T1 (<i>fhuA2</i>)</li> </ul>
BL21 (DE3) Chemically Competent <i>E. coli</i> Cells <a href="#">CC-103</a>	$\geq 1 \times 10^6$ CFU/ $\mu$ g	<ul style="list-style-type: none"> <li>• Routine protein expression</li> <li>• For routine T7 expression</li> <li>• Deficient in Lon and OmpT proteases/B strain</li> <li>• Resistant to phage T1 (<i>fhuA2</i>)</li> </ul>

# GoldBio Competent Cell Guide



Competent Cells	Transfection Efficiency	Applications and Characteristics
DL39 (DE3) Chemically Competent <i>E. coli</i> Cells <a href="#">CC-104</a>	$\geq 1 \times 10^7$ CFU/ $\mu$ g	<ul style="list-style-type: none"> <li>• Transformation and protein expression</li> <li>• Reduce NMR cross-labeling via transaminase activity for valine, leucine, isoleucine, aspartate, phenylalanine, tyrosine and tryptophan residues</li> <li>• Deficient in aromatic, branched-chain and aspartate transaminases</li> <li>• For routine T7 expression</li> </ul>
DH10B Electrocompetent <i>E. coli</i> Cells <a href="#">CC-200</a>	$\geq 1 \times 10^7$ CFU/ $\mu$ g	<ul style="list-style-type: none"> <li>• Blue/white screening (<math>\phi</math>80/<i>lacZ</i><math>\Delta</math>M15)</li> <li>• <i>mcrA</i> marker and <i>mcrBC</i>, <i>mrr</i> deletion for cloning of methylcytosine and methyladenine-containing DNA</li> <li>• High transformation efficiency (<math>\geq 5 \times 10^{10}</math> cfu/<math>\mu</math>g)</li> </ul>
DH10B-Pro™ Electrocompetent <i>E. coli</i> Cells <a href="#">CC-201</a>	$\geq 1 \times 10^7$ CFU/ $\mu$ g (Electroporation)	<ul style="list-style-type: none"> <li>• Cloning – synthetic bio-applications, BAC cloning, assembling large and multi-DNA fragments</li> <li>• Transformation for <math>\geq 10</math> kb up to 350 kb</li> </ul>

# GoldBio Competent Cell Guide



Competent Cells	Transfection Efficiency	Applications and Characteristics
DH5-alpha Electrocompetent <i>E. coli</i> Cells <a href="#">CC-203</a>	$\geq 1 \times 10^7$ CFU/ $\mu$ g	<ul style="list-style-type: none"> <li>• High efficiency transformation for many applications including in plasmid isolation, cloning and subcloning</li> <li>• Increased plasmid yield and improved plasmid quality (<i>endA1</i> and <i>recA1</i> mutations)</li> </ul>
BL21 (DE3) Electrocompetent <i>E. coli</i> Cells <a href="#">CC-204</a>	$\geq 1 \times 10^7$ CFU/ $\mu$ g	<ul style="list-style-type: none"> <li>• Protein expression and complex library expression</li> <li>• For routine T7 expression</li> <li>• Deficient in Lon and OmpT proteases</li> <li>• Resistant to phage T1 (<i>fhuA2</i>)</li> <li>• B strain</li> </ul>
TG1 Phage Display Electrocompetent Cells <a href="#">CC-205</a>	$\geq 1 \times 10^7$ CFU/ $\mu$ g	<ul style="list-style-type: none"> <li>• Protein expression</li> <li>• Amber suppressor strain (<i>supE</i>)</li> <li>• Phage display library screening</li> </ul>

# GoldBio Competent Cell Guide



Competent Cells	Transfection Efficiency	Applications and Characteristics
GV3101 <i>Agrobacterium</i> Electrocompetent Cells <a href="#">CC-207</a>	$\geq 1 \times 10^7$ CFU/ $\mu$ g	<ul style="list-style-type: none"> <li>• Very high transformation efficiency</li> <li>• cDNA or gDNA library construction</li> <li>• T-DNA binary system for host with S genome (Ti plasmid)</li> <li>• Rifampicin resistance and gentamicin resistance (pTiC58DT-DNA)</li> <li>• Agrobacterium-mediated transformation</li> </ul>
AGL-1 <i>Agrobacterium</i> Electrocompetent Cells <a href="#">CC-208</a>	$\geq 1 \times 10^7$ CFU/ $\mu$ g	<ul style="list-style-type: none"> <li>• High transformation efficiency</li> <li>• cDNA or gDNA library construction</li> <li>• Stabilizes recombinant plasmids (<i>recA</i> mutation)</li> <li>• T-DNA binary system for host with S genome (Ti plasmid)</li> <li>• Rifampicin and carbenicillin resistance</li> </ul>
<i>Lactococcus lactis</i> MG1363 Electrocompetent Cells <a href="#">CC-209</a>	$\geq 1 \times 10^6$ CFU/ $\mu$ g	<ul style="list-style-type: none"> <li>• Very high transformation efficiency</li> <li>• cDNA or gDNA library construction</li> </ul>
<i>Lactococcus lactis</i> IL1403 Electrocompetent Cells <a href="#">CC-210</a>	$\geq 1 \times 10^6$ CFU/ $\mu$ g	<ul style="list-style-type: none"> <li>• Very high transformation efficiency</li> <li>• cDNA or gDNA library construction</li> </ul>