

Competent cells selection guide

	Blue-white capable	Phage T1 resistant	Restriction-deficient (End A-/RecA)	Clone methylated (RMS)	Inducible plasmid copy number	F episome	Antibiotic resistance	Electrocompetent: efficiency	Chemically competent: efficiency	
Routine cloning and library construction										
E. cloni® 10G (Classic)	✓	✓	✓	✓	✓	∅	∅	Str	≥5 × 10 ⁹	10 ⁸ –10 ⁹
E. cloni 10G (Elite)	✓	✓	✓	✓	✓	∅	∅	Str	≥2 × 10 ¹⁰	–
E. cloni 10G (Supreme)	✓	✓	✓	✓	✓	∅	∅	Str	≥4 × 10 ¹⁰	–
E. cloni 10G F' (Elite)	✓	✓	✓	✓	✓	∅	✓	Str	≥2 × 10 ¹⁰	–
E. cloni 5-alpha	✓	✓	✓	∅	∅	∅	∅	–	–	≥1 × 10 ⁸
Unstable inserts or toxic gene products										
Copycutter™ EPI400™	✓	✓	✓	✓	✓	✓	∅	Str	≥1 × 10 ¹⁰	≥1 × 10 ⁷
Large inserts, plasmids, or fosmids										
TransforMax™ EC100™	✓	∅	✓	✓	✓	∅	∅	Str	≥1 × 10 ¹⁰	≥5 × 10 ⁸
TransforMax EPI300™	✓	∅	✓	✓	✓	a	∅	Str	≥1 × 10 ¹⁰	≥5 × 10 ⁸
TransforMax EPI300™-T1R	✓	✓	✓	✓	✓	a	∅	Str	≥1 × 10 ¹⁰	–
BAC cloning										
BAC-Optimised Replicator™ v2.0	✓	∅	✓	✓	✓	a	∅	Amp, Str	≥1 × 10 ¹⁰	–
E. cloni BAC-Optimised 10G	✓	∅	✓	✓	✓	∅	∅	Str	≥1 × 10 ¹⁰	–
BigEasy™-TSA	b	✓	✓	✓	✓	c	∅	Amp, Str	≥2 × 10 ¹⁰	–
Phage display										
TG1	✓	∅	∅	∅	d	∅	✓	–	≥4 × 10 ¹⁰	–
ER2738	✓	✓	∅	∅	d	∅	✓	Tet	≥2 × 10 ¹⁰	–
SS320 (MC1061 F')	✓	∅	∅	∅	e	∅	✓	Tet, Str	≥4 × 10 ¹⁰	–
MC1061 F-	∅	∅	∅	∅	e	∅	∅	Str	≥4 × 10 ¹⁰	–
CRISPR sgRNA libraries and lentiviral plasmid cloning										
Endura™	∅	∅	f	∅	g	∅	∅	Str	≥1 × 10 ¹⁰	≥1 × 10 ⁷
Site-directed mutagenesis										
CJ236	∅	∅	∅	∅	∅	∅	✓	Cam	≥1 × 10 ⁹	–

Amp, ampicillin; Cam, chloramphenicol; Str, streptomycin; Tet, tetracycline

a: Requires OriV vectors (e.g., CopyRight® and pCCFOS)

b: Requires IPTG

c: Only with pJAZZ® vectors

d: mcrB– only; not suitable for cloning eukaryotic genomic DNA

e: mcrA– mcrB–; not suitable for cloning eukaryotic genomic DNA

f: RecA13 only

g: mcrB– mrr–; not suitable for cloning eukaryotic genomic DNA

Primary promoter
Background expression control
Low endotoxin
Antibiotic resistance
Electrocompetent: efficiency
Chemically competent: efficiency

Protein expression: routine						
E. cloni EXPRESS BL21(DE3)	T7	∅	∅	–	$\geq 5 \times 10^9$	$\geq 1 \times 10^7$
HI-Control™ BL21(DE3)	T7	✓	∅	Gen	–	$\geq 1 \times 10^7$
HI-Control™ 10G	P _{lac} ⁷ P _{lac} ⁷ P _{trc} ⁷ T5 _{lac} rhaP _{BAD}	✓	∅	Gen, Str	–	$\geq 1 \times 10^9$
ClearColi® BL21(DE3)	T7	∅	✓	–	$\geq 1 \times 10^9$	–
Protein expression: toxic products						
OverExpress™ C41(DE3)	T7	∅	∅	–	$\geq 1 \times 10^9$	$\geq 1 \times 10^8$
OverExpress C41(DE3) pLysS	T7	✓	∅	Cam	–	$\geq 1 \times 10^8$
OverExpress C43(DE3)	T7	∅	∅	–	$\geq 1 \times 10^9$	$\geq 1 \times 10^8$
OverExpress C43(DE3) pLysS	T7	✓	∅	Cam	–	$\geq 1 \times 10^8$

Cam, chloramphenicol; Gen, gentamicin; Str, streptomycin; rhaPBAD, rhamnose-inducible promoter

Not finding a strain suitable for your application? Do you need a different size or bulk purchase? Lucigen's Custom Competent Cell Preparation Services provide:

- **Support** - Personalised service from initial discussion through delivery
- **Flexibility** - Choose from the following options to match your specific needs:
 - Style:** Chemically competent or electrocompetent cells
 - Dispense volume:** bulk or small aliquots
 - Format:** 96-well plates or tubes of your choice
 - Strains:** Lucigen or any BSL1 E. coli strain of choice that meets your application needs
- **Transformation efficiency** - High efficiencies that match your needs, up to an industry-leading 4×10^{10} cfu/ μ g DNA
- **Rapid turnaround time** - Average 2-3 weeks
- **Quality** - ISO 13485 Certified with 10+ years of manufacturing excellence, available for OEM and partnerships

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