



OverExpress™ Competent Cells

Express toxic and membrane proteins from T7 promoters

- Avoid inclusion bodies and get high levels of soluble protein
- Validated in over 350 publications for toxic protein expression
- Choose electrocompetent or chemically competent strains, with or without pLysS
- Try your difficult protein in all four strains with the OverExpress ChemComboPack

Lucigen's OverExpress™ strains are designed for hard-to-express proteins. Their unique ability to yield soluble proteins from difficult targets like membrane proteins and nucleases saves time and effort spent in optimization of more complex systems, and helps avoid inclusion body formation. OverExpress strains have been shown to be effective in expressing toxic proteins from all classes of organisms, including eubacteria, yeasts, plants, viruses, and mammals. Visit our OverExpress citations page, <http://www.lucigen.com/OverExpress-References>, to see over 350 proteins successfully expressed in OverExpress strains.

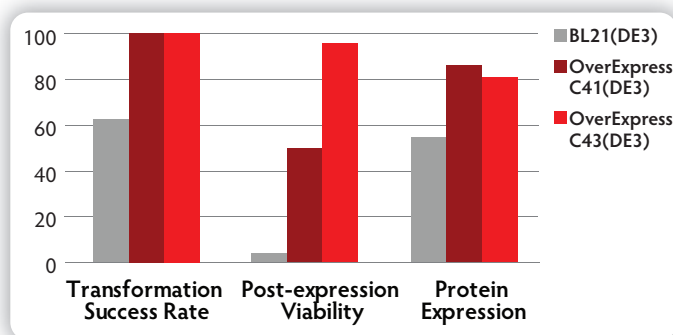


Figure 2. Comparison of OverExpress C41(DE3) and C43(DE3) cells with the parental strain BL21(DE3) in transformation and expression of heterologous proteins.**

Lucigen's OverExpress strains are BL21(DE3) derivatives, phenotypically identified by their unique abilities in expressing toxic proteins. The strains can be differentiated from each other and from BL21(DE3) by transformation with the included strain verification vector, pAVD10. pAVD10 contains the uncF gene (encoding the beta-subunit of E. coli ATPase) under control of a T7 promoter. This plasmid is lethal to BL21(DE3) and to induced C41(DE3), but it is tolerated by C43(DE3) regardless of induction.

Strain	BL21(DE3)	C41(DE3)	C43(DE3)
LB-Amp	⊘	✓	✓
LB-Amp-IPTG	⊘	⊘	✓

Table 1: Viability of expression hosts, transformed with pAVD10 and plated with and without induction of overexpression.

** L. Dumon-Seignovert, G. Cariot, and L. Vuillard (2004). Protein Expression and Purification 37, 203-206. Data used with permission.

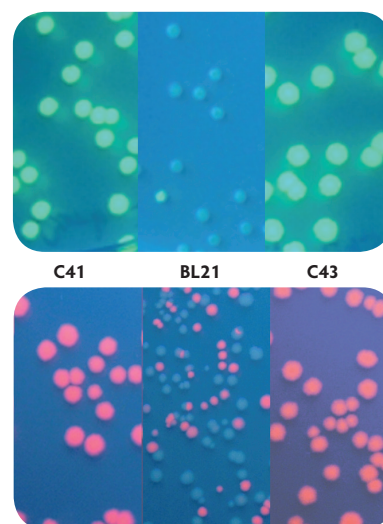


Figure 1. Green Fluorescent Protein (top) or Red Fluorescent Protein (bottom) expressed from a T7 promoter construct that was transformed into C41, BL21, or C43 competent cells spread on IPTG plates to induce protein expression.

OverExpress chemically competent strains are also available in pLysS versions, bearing the T7 lysozyme gene or chloramphenicol-resistant plasmid. The presence of the T7 lysozyme minimizes expression from the T7 promoter under normal conditions, which minimizes toxic effects of certain proteins.



Which OverExpress cell strain should I use?

It is difficult to predict which of the four OverExpress will work best for a given protein. C41(DE3) and C43(DE3) strains may perform quite differently with the same target. Start with an OverExpress ComboPack™ containing all four strains to quickly find out which strain works best for your application.

Products	VWR Cat. No.	Size
Electrocompetent Cells		
OverExpress C41(DE3) Cells ($\geq 1 \times 10^{10}$ cfu/ μ g)	89027-116	12 reactions (SOLOs)
	89027-118	24 reactions (SOLOs)
OverExpress C43(DE3) Cells ($\geq 1 \times 10^{10}$ cfu/ μ g)	89027-124	12 reactions (SOLOs)
	89027-126	24 reactions (SOLOs)
Chemically Competent Cells		
OverExpress C41(DE3) Cells ($\geq 1 \times 10^6$ cfu/ μ g)	89027-134	12 reactions (SOLOs)
	89027-136	24 reactions (SOLOs)
OverExpress C41(DE3)pLysS Cells ($\geq 1 \times 10^6$ cfu/ μ g)	89027-138	12 reactions (SOLOs)
	89027-140	24 reactions (SOLOs)
OverExpress C43(DE3) Cells ($\geq 1 \times 10^6$ cfu/ μ g)	89027-142	12 reactions (SOLOs)
	89027-144	24 reactions (SOLOs)
OverExpress C43(DE3)pLysS Cells ($\geq 1 \times 10^6$ cfu/ μ g)	89027-146	12 reactions (SOLOs)
	89027-148	24 reactions (SOLOs)
OverExpress ChemComboPack (3 reactions each of the above 4 strains)	89027-150	12 reactions (SOLOs)
Expression Recovery Medium		
Expression Recovery Medium (lactose minus)	89027-152	8 x 12 mL

Cited in over 350 publications!
<http://lucigen.com/OverExpress-References>

Important Product Use Information

OverExpress Cells are licensed exclusively to Lucigen Corporation by Imaxio S.A. under US Pat. 6,361,966 and others. Purchase of OverExpress Cells is accompanied by a non-exclusive, non-transferable license for research use only. Commercial use requires a separate license available from Imaxio S.A.

ORDER INFORMATION

Each OverExpress Kit contains the indicated OverExpress Electrocompetent or Chemically Competent Cells in SOLO packaging (1 transformation per tube), Expression Recovery Medium (lactose minus), pUC19 Positive Control Plasmid, pAVD10 Verification Plasmid, and complete protocols. ComboPacks contain 3 reactions each of C41(DE3), C43(DE3), C41(DE)pLysS, and C43(DE3) pLysS, as chemically competent cells, as indicated. Expression Recovery Medium is also available separately. 24-reaction kits are multiples of the 12 reaction kit, 2 x 12 reactions.