

- ▶ NGS Library Prep
- ▶ Protein Expression Kits
- ▶ Cloning Kits & Vectors
- ▶ Competent Cells
- ▶ PCR & Amplification
- ▶ Enzymes for Genomic Applications

Simplify your research
Try Lucigen today

lucigen.com

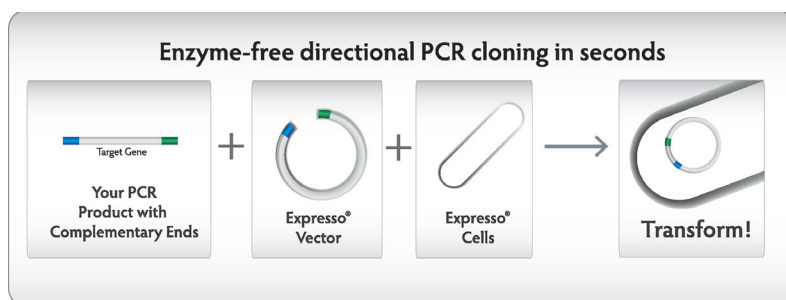


Expressioneer™ Technology

Surprisingly Simple Protein Expression

Simplified Ligation Independent Cloning

Expressioneer™ Technology uses *in vivo* homologous recombination to seamlessly clone PCR amplified DNA into optimized expression vectors without the need for enzymes or purification steps. The desired insert is simply amplified with primers that include 18 bases that overlap with the ends of the Expresso vector. The unpurified PCR amplicon is mixed with the pre-processed expression plasmid and the high-efficiency competent cells provided. The cells are then directly plated on appropriate media.



Watch how
it works ↓



lucigen.com/expressovideo

Solving your most difficult protein expression challenges:

ULTRA PURE PROTEIN

Expresso® Biotin

- Ultra-pure protein thru AviTag™ biotinylation and single column streptavidin capture.
- Dual affinity tags for full length protein purification: AviTag + 6HIS.
- >90% pure protein in hours with minimal hands on time.

TIGHTLY CONTROLLED EXPRESSION

Expresso Rhamnose

- Rhamnose-inducible for tunable protein expression.
- Single strain for transformation and expression.
- Perfect for high-throughput protein expression.

MAMMALIAN PROTEIN EXPRESSION

Expresso CMV

- Precise: no scars results in highly accurate sequences and proteins.
- Small: Only 3.4 kb – higher transfection efficiency, easier downstream manipulation.
- CMV promoter for strong, constitutive eukaryotic expression.

SOLUBLE PROTEINS

Expresso SUMO

- Increases expression efficiency and decreases likelihood of inclusion bodies.
- Recover native protein with SUMO Express Protease.
- Available in all *E. coli* kits: Expresso Biotin, Expresso Rhamnose, Expresso T7.

ROUTINE PROTEIN EXPRESSION

Expresso T7

- IPTG-inducible for maximal protein expression.
- Supplied with two competent HI-Control™ strains for cloning and expression.
- N- or C-terminal 6X His-tagged proteins.

“I was extremely pleased with the Expresso system — I got my clones very easily, in one, quick try and have highly recommended the product to my colleagues here at MIT.”

Parson's Lab, MIT

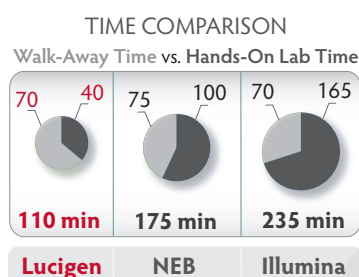
Demand More from your NGS Library Prep!

Our NxSeq kits are cutting edge in speed and ease of use, enabling you to get your results faster and with less effort.

Faster NGS Library Prep

NxSeq DNA Sample Prep Kits

- Save up to 2 hours off your library prep time
- Cut NGS costs
- Same high quality data



Streamline Your De Novo Genome Sequencing

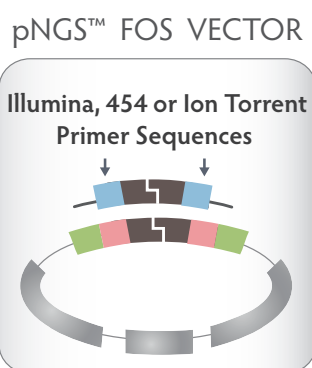
NxSeq 40 kb Mate-Pair Cloning Kit

- True long-span mate-pair NGS libraries
- Skip the adapters, built-in Illumina, 454, or Ion Torrent primer sites

Your only source for 40 kb mate-pair libraries*

Wu 2012. *Nature Methods* 9, doi:10.1038/nmeth.f.358

*Patent #8329400, licensed exclusively by Lucigen.



Simplified Workflow

NxSeq 40 kb Kit

Shear

Ligate

Restriction
Digest

Re-Ligate

Amplify

Sequence!

Simplify your NGS Sample Prep - try Lucigen today.
www.lucigen.com/ngs



Cloning Systems

Clone virtually any size of insert – from routine sequences to “unclonable” DNA!

Lucigen's novel, transcription-free vectors reduce cloning bias, improve efficiency, and increase stability for your most demanding cloning applications.



CloneSmart® Cloning Kits

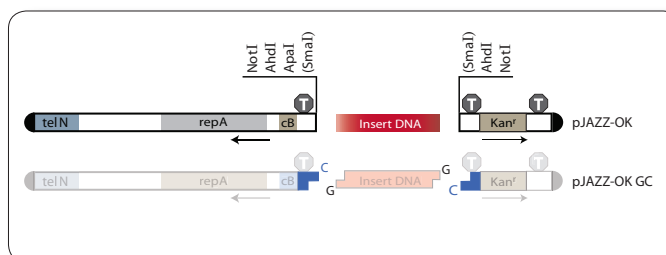
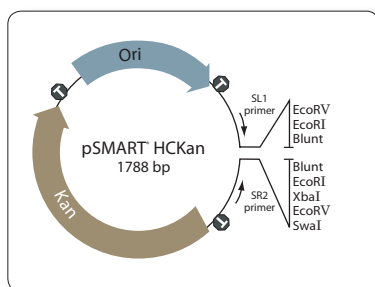
- Pre-processed pSMART® vectors for the ultimate ease of use
- Transcription-free design stabilizes toxic inserts
- Ultra-low background – no need for screening your clones

BigEasy® Cloning Kits

- Efficiently clone any insert up to 30kb into unique pJAZZ® vectors
- Maximum insert stability
- Create libraries from A/T-rich or G/C-rich genomes
- Clone entire gene clusters or operons

CopyRight® v2.0 Fosmid & BAC Cloning Kits

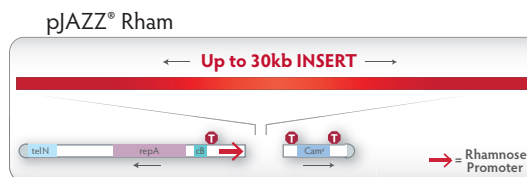
- Reliably clone up to 200kb inserts – capture entire gene clusters
- High insert stability increases sequence coverage and reduces bias
- Inducible copy number



New for 2013

BigEasy® Express Linear Cloning and Expression System

- Express operons or gene clusters up to 30 kb in length
- Choice of vectors for directional or blunt cloning
- Ideal for synthetic biology or difficult to clone genes



Also available:

- GC Cloning – the more efficient alternative to TOPO TA cloning kits
- DNATerminator® End Repair and PCRTerminator® End Repair Kits
- A full suite of enzymes to complete your cloning experiments

eLucidator™
Cloning Kits & Vectors
INTERACTIVE SELECTION GUIDE

► lucigen.com/cloningguide

Competent Cells



Competent Cells

Choose your application – Cloning, Phage Display, or Protein Expression.

Lucigen's cells combine unparalleled transformation efficiencies and value in a range of strains and formats.

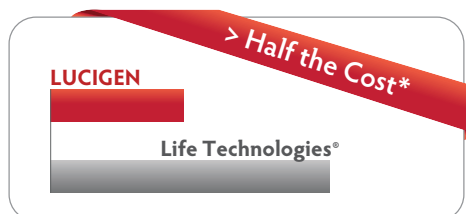


Cells for Cloning

E. coli[®] Competent Cells for Cloning

- Your most cost-effective source for competent cells
- Transformation efficiencies up to $\geq 4 \times 10^{10}$ cfu/ μ g
- Broad line of strains for all your cloning needs

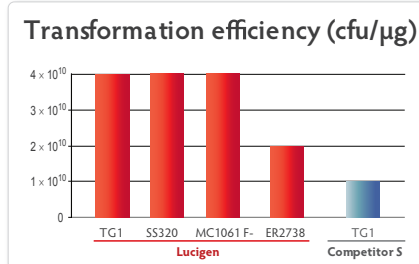
Cost per Transformation



* Lucigen *E. coli*[®] 10G Chem Comp versus Life Technologies OneShot[®] Top10. Based on 2012 US list prices.

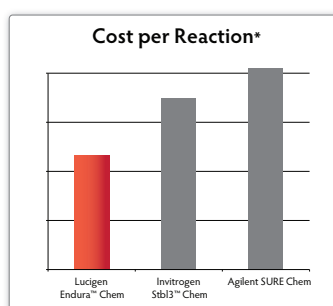
Phage Display Competent Cells

- Perfect for antibody or peptide phage display libraries
- Highest transformation efficiencies available anywhere
- TG1, SS320, and E2738 and MC1061F- strains available
- Amber suppressor and non-amber suppressor lines for maximum flexibility
- Create larger libraries and speed your discovery



Endura[™] Competent Cells

- Clone unstable sequences with reliable results
- Direct replacement for Invitrogen Stbl3[™] and Agilent SURE strain
- High efficiency: over 1×10^8 cfu/ μ g (chem) or 1×10^{10} cfu/ μ g (electro)



* Based on US 2012 list prices.

New for 2013

CleanColi[™] Low Endotoxin Competent Cells

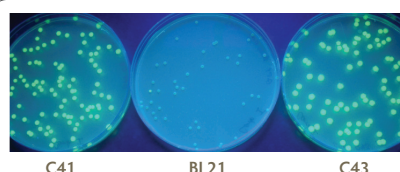
- Modified lipopolysaccharide for reduced endotoxin response levels
- Minimal downstream cleanup – significant cost and time savings
- Strains available for protein production, DNA production, and phage display



Cells for Protein Expression

OverExpress[™] C41(DE3) and C43(DE3)

- Effective in expressing toxic and membrane proteins from any organism in a T7 vector
- Chemical and electrocompetent strains available with transformation efficiencies $\geq 1 \times 10^{10}$
- Over 350 publications attest to OverExpress performance
- Also available in pLysS strain



Expression of toxic protein. Green Fluorescent Protein was expressed from a T7 promoter construct in C41, BL21, or C43 competent cells.

Also available:

E. coli[®]
EXPRESS BL21(DE3)
Competent Cells

For routine protein expression using any *E. coli* T7 expression vector.



DNA Polymerases

The ideal combination of Performance, Convenience, and Value

Our polymerases represent a superb option for all your amplification needs. With excellent robustness and great value, your lab can reduce costs without sacrificing performance.

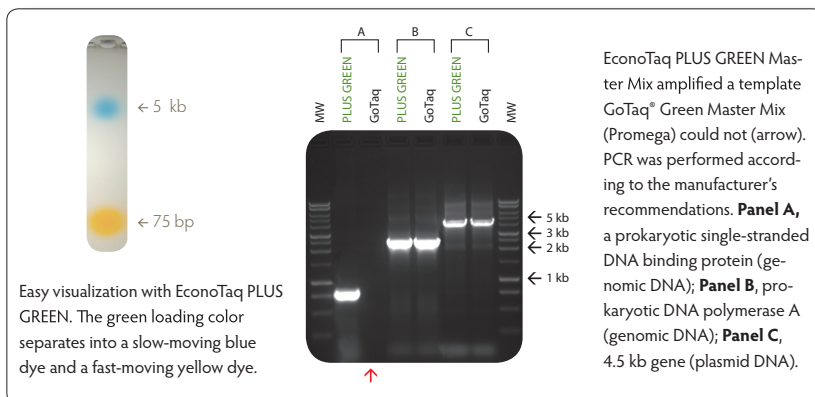


EconoTaq® PLUS and PLUS GREEN 2X Master Mixes

- Outstanding performance and value for your everyday PCR applications
- Complete 2X Master mix with PCR enhancer for robust amplification
- EconoTaq PLUS GREEN includes loading and tracking dyes

Also available:

EconoTaq DNA polymerase with separate buffers for greater flexibility



NEW CloneID™ 1X Colony PCR Master Mix

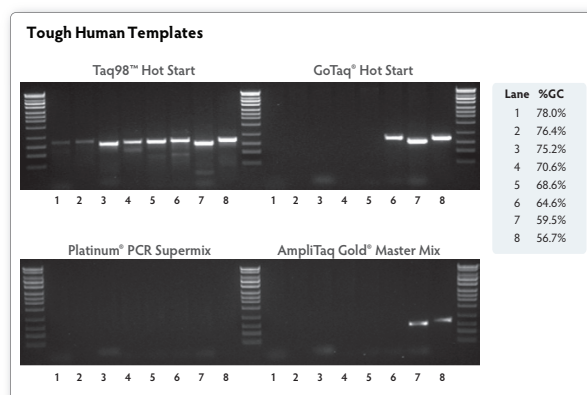
- Outstanding reliability and reproducibility in Colony PCR and genotyping applications
- Convenient 1X Master Mix: just add a colony, primers, and cycle
- Optimized formulation for to handle the toughest targets
- Contains tracking dyes for direct gel loading

Taq98® Hot Start 2X Master Mix

- Amplify challenging >70% GC-rich templates
- Supreme ease of use: just add your primers and template & go
- Extreme thermostability: 98°C hot start step ensures denaturation of challenging sequences

Also available:

- EconoTaq® DNA Polymerase
- PyroPhage® 3173 DNA Polymerase (Exo-)
- Bst DNA polymerase
- PyroPhage 3173 Wild type
- dNTP's and more!



New for 2013

Accura™ High Fidelity DNA Polymerase

Ask us how to get fidelity and robust amplification with one polymerase.



NxGen® Genomic Grade Enzymes

Experience greater performance, reliability, and exceptional prices

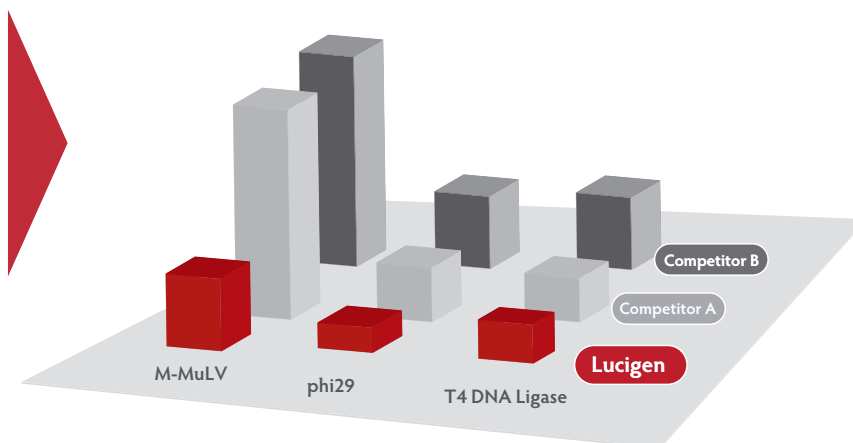
M-MuLV RT	Phi29 DNA Polymerase	T4 DNA Ligase
Outstanding cDNA synthesis	Strand displacement, fidelity and speed for DNA amplification	The gold standard in cloning. Optional Rapid Kit for added time savings

Also available:

- T7 RNA Polymerase
- T7 DNA Polymerase
- Terminal Transferase
- T4 RNA Ligase
- Lambda Exonuclease
- Exonuclease I
- Exonuclease III

PRICE Advantage

Actual example of the savings you can expect.



*costs determined assuming 100 reactions per month on M-MuLV. Based on US 2012 list prices.

Modifying Enzymes
SELECTION GUIDE

► lucigen.com/enzymesguide

Custom Services from Lucigen

At Lucigen, we do much more than make kits for your lab.

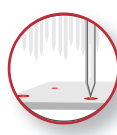
We recognize that sometimes you need something special. We're here to help.

Custom Competent Cells



- Individualized dispensing: get your favorite cells in volumes that make sense for your workflow
- Your strain made competent: we manufacture your strain consistently and cost effectively

Custom Genomic Services



- Random Shear BAC/Fosmid Libraries
- Metagenomic Libraries for sequencing and expression screening
- Next Gen Sequencing Services available for all Lucigen custom libraries



Lucigen®

Simplifying Genomics

At Lucigen, we deliver advanced molecular biology products and services to life scientists by inventing solutions to the most difficult problems in DNA cloning, sequencing, amplification, and protein expression.

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científica, s.l.

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soluciones científicas

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