

## Cellecta CRISPR Knockout Portfolio

| Product Line   | Catalog#          | Description   |
|--|-------------------|---|
| <b>CRISPR Constructs</b>   |                   |   |
| <i>Individual Plasmid Control Constructs (Also available as packaged virus)</i>      |                   |   |
| sgRNA-Cas9 vector  | SGCCTL-XX-PX      | Empty CRISPR sgRNA-Cas9 Vector Control (plasmid)  |
|  | SGCCTL-COP-PX     | sgCopGFP (non-targeting) in Standard sgRNA-Cas9 Vector (plasmid)                                  |
|  | SGCCTL-PCNA-PX    | sgPCNA (lethal) in Standard sgRNA-Cas9 Vector (plasmid)   |
|  | SGCCTL-POLR2L-PX  | sgPOLR2L (lethal) in Standard sgRNA-Cas9 Vector (plasmid)   |
| sgRNA-only vector  | SGCTL-XX-PX       | Empty CRISPR sgRNA-only Vector Control (plasmid, not designed for cloning)                        |
|  | SGCTL-COP-PX      | sgCopGFP (non-targeting) in Standard sgRNA-only Vector (plasmid)                                  |
|  | SGCTL-PCNA-PX     | sgPCNA (lethal) in Standard sgRNA-only Vector (plasmid)   |
|  | SGCTL-POLR2L-PX   | sgPOLR2L (lethal) in Standard sgRNA-only Vector (plasmid)   |
| Cas9 only  | SVC9-PS           | CRISPR Cas9 Expression Vector pR-CMV-Cas9-2A-Hygro (plasmid)                                      |
|  | SVC9B-PS          | CRISPR Cas9 Expression Vector pR-CMV-Cas9-2A-Blast (plasmid)                                      |
| <b>CRISPR sgRNA Cloning Vectors (Linearized)</b>                                     |                   |   |
| sgRNA-Cas9 vector  | SVCRU6CCP-L       | CRISPR pRSGCCP-U6-(xx)-CMV-Cas9-2A-Puro (linearized)  |
|  | SVCRU6CCH-L       | CRISPR pRSGCCH-U6-(xx)-CMV-Cas9-2A-Hygro (linearized)   |
|  | SVCRU6CCB-L       | CRISPR pRSGCCB-U6-(xx)-CMV-Cas9-2A-Blast (linearized)   |
|  | SVCRU6CCR-L       | CRISPR pRSGCCR-U6-(xx)-CMV-Cas9-2A-TagRFP (linearized)  |
|  | SVCRU6CCG-L       | CRISPR pRSGCCG-U6-(xx)-CMV-Cas9-2A-TagGFP2 (linearized)   |
|  | SVCRU6CEP-L       | CRISPR pRSGCEP-U6-(xx)-EF1-Cas9-2A-Puro (linearized)  |
|  | SVCRU6CSP-L       | CRISPR pRSGCSP-U6-(xx)-SV40-Cas9-2A-Puro (linearized)   |
|  | SVCRU6CUP-L       | CRISPR pRSGCUP-U6-(xx)-UbiC-Cas9-2A-Puro (linearized)   |
|  | SVCRU6CUB-L       | CRISPR pRSGCUB-U6-(xx)-UbiC-Cas9-2A-Blast (linearized)  |
|  | sgRNA-only vector | SVCRU616-L  |
| SVCRU617-L   |                   | CRISPR pRSG17-U6-(xx)-UbiC-TagGFP2-2A-Puro (linearized)   |
| SVCRU620-L   |                   | CRISPR pRSG20-U6-(xx)-CMV-TagRFP-2A-Puro (linearized)   |
| SVCRU621-L   |                   | CRISPR pRSG21-U6-(xx)-CMV-TagGFP2-2A-Puro (linearized)  |
| SVCRU6T16-L  |                   | CRISPR pRSGT16-U6Tet-(xx)-CMV-TetRep-2A-TagRFP-2A-Puro (linearized)                               |
| SVCRU6T17-L  |                   | CRISPR pRSGT17-U6Tet-(xx)-CMV-TetRep-2A-TagGFP2-2A-Puro (linearized)                              |
| <b>Custom Lentiviral Constructs, CRISPR sgRNA (Also available as packaged virus)</b> |                   |   |
|  | CVCRC-PX          | Custom Lentiviral sgRNA Knockout Construct (plasmid)  |
| <b>CRISPR Libraries</b>  |                   |   |
| <i>Pre-made CRISPR sgRNA Knockout Libraries (Also available as packaged virus)</i>   |                   |   |
|  | KOHGW-80K-P       | CRISPR Human Genome 80K Knockout Library (plasmid)  |
|  | KOHGW-M1-P        | CRISPR Human Genome Knockout Library, Module 1 (plasmid)  |
|  | KOHGW-M2-P        | CRISPR Human Genome Knockout Library, Module 2 (plasmid)  |
|  | KOHGW-M3-P        | CRISPR Human Genome Knockout Library, Module 3 (plasmid)  |
| <i>Custom CRISPR sgRNA Libraries (Also available as packaged virus)</i>              |                   |   |
|  | CPLVSG-L-O        | Design and Synthesis of Oligo Pool for CRISPR sgRNA library                                       |
|  | CPLVSG-L-P        | Cloning of CRISPR sgRNA Library from Oligo Pool   |
|  | CPLVSG-L-ADD      | Additional Plasmid Stock of Previously Made sgRNA Library   |
|  | CPLVSG-L-DES      | Specialized non-standard sgRNA design   |
| <b>Isogenic Knockout Cell Service</b>  |                   |   |
|  | CSCL-CR-P         | Stable CRISPR Knockout Cell Pool (screen for validated sgRNA, single knockdown)                   |
|  | CSCL-CR-X         | Stable CRISPR Knockout Cell Line (Clonal Cell Line)   |
|  | CSCL-CR-Z         | Stable CRISPR Knockout Cell Pool (transduction/selection of validated sgRNA construct or control) |
|  | CSCL-C9-P         | Stable Cas9 Expression Cell Pool Construction (standard design, non-clonal population)            |
| <b>Screening Services with CRISPR sgRNA Libraries</b>                                |                   |   |
|  | CRGC              | Contract Loss-of-Function Screen with CRISPR sgRNA Library  |
| <b>Ancillary Products</b>  |                   |   |
|  | CRISPRtest        | CRISPRtest™ Functional Cas9 Activity Kit  |
|  | CRUTEST           | CRISPRuTest™ Functional Cas9 Nuclease Activity Assay Kit for any cell (Mammalian)                 |
|  | CRATEST           | CRISPRaTest™ Functional dCas9-Activator Assay Kit   |
|  | CRITEST           | CRISPRiTest™ Functional dCas9-Repressor Assay Kit   |

Interested in these CRISPR products and services? To request a quote or calculate pricing for constructs, please fill out and submit the appropriate form available on the Cellecta website at [www.cellecta.com/order](http://www.cellecta.com/order). For all other products, and to place an order, email us at [orders@cellecta.com](mailto:orders@cellecta.com). For additional information on our CRISPR portfolio, visit our website at [www.cellecta.com/crispr](http://www.cellecta.com/crispr).

## CRISPR Knockout Portfolio

- Constructs
- Pooled Lentiviral Libraries
- Screening Services
- Custom Cell Lines



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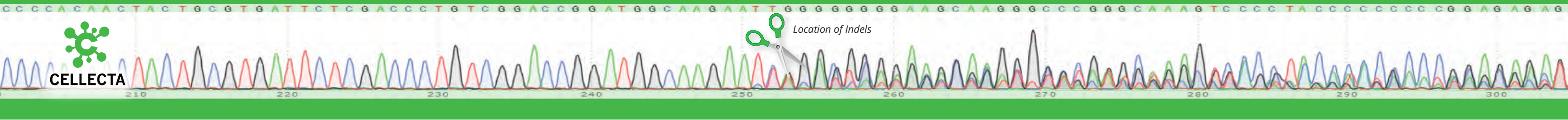
**Your Gene Knockout  
Solutions Partner**



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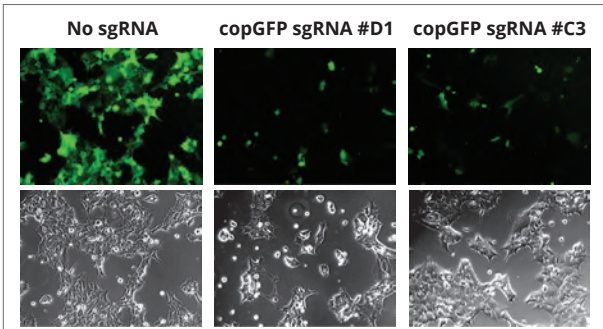


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## Constructs

Achieve complete knockout of your gene with our reliable and precise CRISPR lentiviral constructs, available as plasmids or packaged, transduction-ready lentiviral particles. Pick your gene of interest, choose your options, and we do the rest.

- Effective guide design increases knockout (KO) efficiency
- CRISPR KO, CRISPRi and CRISPRa constructs available
- Choice of single vector (both sgRNA & Cas9 in one vector) or two vector system (sgRNA & Cas9 in separate vectors)



Several sgRNAs targeting a variant of the copGFP gene were designed and individually transduced into HEK293 cells stably expressing copGFP. After 9 days, cells were imaged for GFP fluorescence. For each sgRNA tested, GFP expression was abolished in at least 70% of transduced cells.

### Custom CRISPR Construct Options

| Construct Choices                       | Benefits   | Customizable Options  |
|---|--|---|
| <b>Single Vector CRISPR/Cas9 System</b> | <ul style="list-style-type: none"> <li>• Convenient single transduction for knockout</li> <li>• Ideal for <i>in vivo</i> knockout experiments</li> </ul>                           | <ul style="list-style-type: none"> <li>• Choice of antibiotic selection or fluorescent marker (Puro<sup>R</sup>, Hygro<sup>R</sup>, Blast<sup>R</sup>, Neo<sup>R</sup>, RFP, or GFP)</li> </ul>   |
| <b>Two Vector CRISPR/Cas9 System</b>    | <ul style="list-style-type: none"> <li>• Better knockout efficiency</li> <li>• Significantly higher titers</li> <li>• Ideal for CRISPR libraries/screening applications</li> </ul> | <ul style="list-style-type: none"> <li>• Constitutive or inducible sgRNA expression</li> <li>• Choice of antibiotic selection <i>and</i> fluorescent marker (Puro<sup>R</sup>, Hygro<sup>R</sup>, Blast<sup>R</sup>, Neo<sup>R</sup>, and RFP / GFP)</li> </ul> |

## Libraries

Pooled lentiviral-based libraries containing heterogeneous mixtures of CRISPR single-guide RNA (sgRNA or gRNA) constructs allow you to assay the effects of many thousands of knockouts in one experiment. As we have done for over 10 years with pooled shRNA libraries, Cellecta has the expertise and capability to generate high-quality, complex CRISPR sgRNA libraries targeting virtually any defined sequences.

### CRISPR Human Genome Knockout Library

The CRISPR Human Genome-wide library is available as three modules in both plasmid and ready-to-use packaged formats.

- Superior quality, highly representative targeted lentiviral sgRNA for CRISPR screens
- Off-the-shelf lentiviral-based CRISPR sgRNA library
- Targets nearly all protein-encoding genes in the human genome
- Improved sgRNA design increases knockout effectiveness

### Custom CRISPR Library Generation

You give us your list of targets, and we will do the rest! We design sgRNA, generate oligos, clone, and sequence the library using NGS. Our sgRNA design includes parameters that optimize for on-target knockout while minimizing off-target cross reactivity. We can also design sgRNA for CRISPRi and CRISPRa screens. Libraries include non-targeting, intron-targeting, and lethal sgRNA controls to provide reference standards when analyzing screening results.

## Loss-of-Function Screening Services

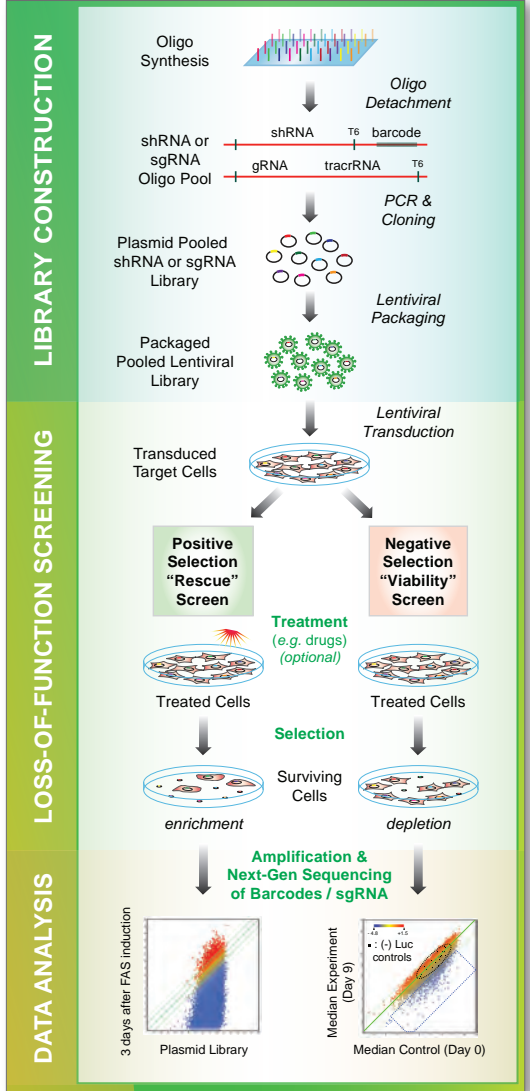
Cellecta has developed an effective, scalable, high-throughput CRISPR screening services using the cell model of your choice. Choose from a variety of custom and contract solutions for high-throughput genetic screening needs.

### Dropout Viability Screening

- Identify genes essential for growth and proliferation
- Find targets that increase cell sensitivity to compounds or treatments
- Look for synthetically lethal interactions with known genetic lesions

### sgRNA Rescue Screening

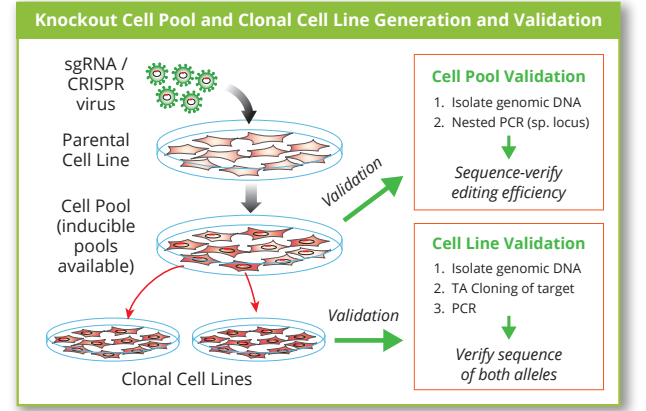
- Identify genes functionally required for cell sensitivity to a treatment or compound
- Identify pathway or gene clusters mediating a specific cell response
- Elucidate the mechanism of action or target pathway for a compound or drug



## Knockout Cells

Choose your gene of interest and cell background, and Cellecta will build a custom knockout cell line.

- Knockout validated by sequence verification
- Transient use of Cas9 to make knockout
- Transient sgRNA "zero-footprint" protocol available



## CRISPRtest™ Cas9 Assay Kit

Want to know if Cas9 is active in your cells? Find out with Cellecta's CRISPRtest Functional Cas9 Activity Kit. We also offer test kits to measure

- dCas9-Activator enhancement
- dCas9-Repressor function

A standard FACS analysis detects Cas9 activity in your cells.

