Custom CRISPR sgRNA Pooled Libraries

CELLECTA

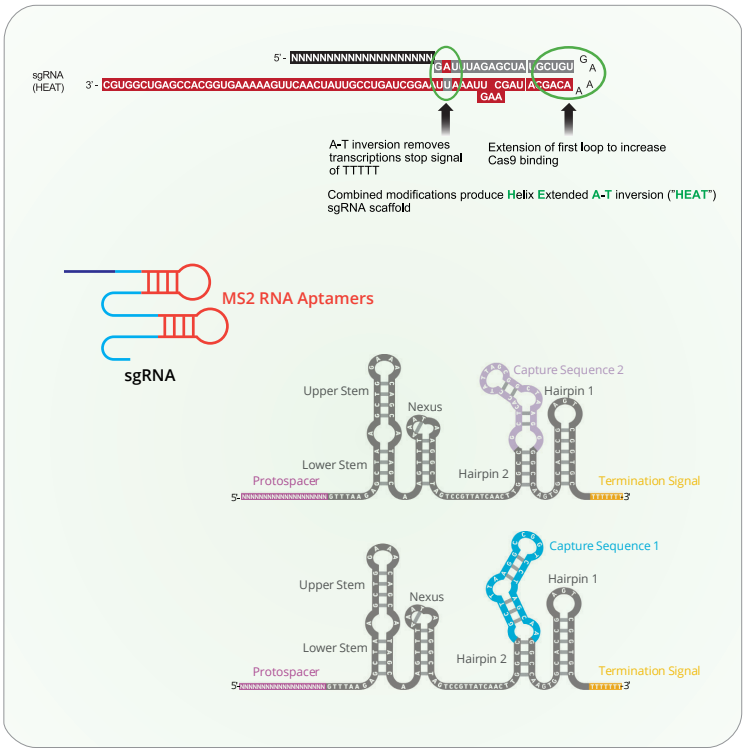
Discovery is yours™

Get the right library for your screen!

In addition to standard CRISPR knockout, specialized applications often require sgRNA libraries with non-standard designs, including:

- sgRNA libraries for CRISPRa and CRISPRi libraries
- Libraries compatible with the CRISPRa SAM complex that requires a modified tracr design
- Single-cell applications that use guides with specific "capture sequences" in the tracrRNA segment (e.g. capture sequences compatible with 10X Chromium Single Cell 3' v3 Gel Beads)
- Studies that combine expression analysis with CRISPR screens and thus need to detect the sgRNA by RNA sequencing
- Designs where barcode or unique molecular identifier (UMI) sequences combined with sgRNAs are required
- sgRNAs that are compatible with other CRISPR Cas proteins (e.g., Cpf1)

Cellecta's **custom sgRNA construct and library service** easily accommodates all the above variations and more. Cellecta has over 15 years of experience making high quality pooled shRNA, barcode, and sgRNA libraries targeting virtually any defined sequences. Just let us know what you need, and we will provide it.



Cellecta Custom CRISPR Libraries

1. Oligo Design and Synthesis

We will design sgRNAs to most genes incorporating our HEAT-modified, improved sgRNA scaffold structure. For more specialized applications, researchers may also provide their own guide sequences.

2. Cloning

After the design step, we synthesize and clone the pool of oligos in any of our standard library vectors or we can make the library in a customer-provided vector. We also have available sets of non-targeting, intron-targeting, and lethal sgRNA controls that can be incorporated into the library.

3. Quality Analysis

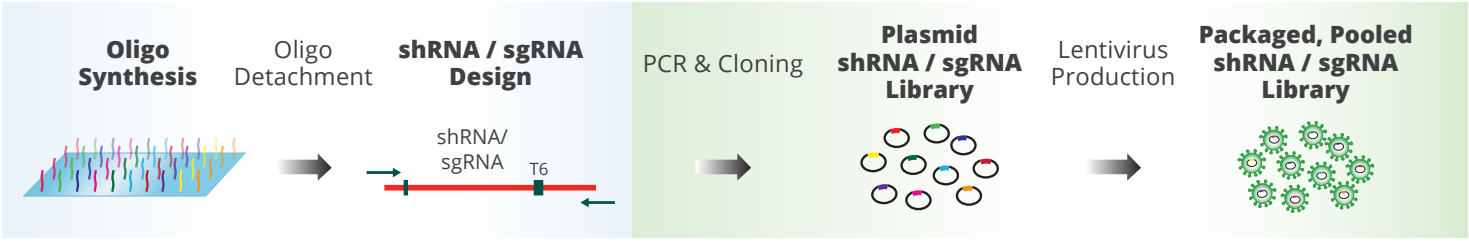
Once the library is made, we isolate a few dozen constructs for full-insert Sanger sequencing to confirm the configuration of the sgRNA expression cassette, and we deep sequence all guide sequences by NGS to confirm full representation of the oligo pool and assess distribution. Libraries that do not meet our standards are remade.

4. Deliverables

On completion, we provide 500 µg of the plasmid library with:

- All sequence information on the sgRNA guides and vector
- The cloning site design
- Primer information for sequencing
- NGS sgRNA distribution data

The whole process takes approximately two months once the gene list is finalized. Additional services to prepare VSV-g pseudotyped viral particles ready to transduce in cells are available.



For more information on Cellecta custom services, visit www.cellecta.com/services or email info@cellecta.com