Alt-R™ Custom CRISPR gRNA Libraries

Chemically modified guide RNA libraries for CRISPR screening research

Fast turnaround time, flexible formulation

Adaptable for different CRISPR systems

Complete CRISPR workflowsolution from custom design to analysis

Alt-R Custom CRISPR gRNA libraries are available for all CRISPR nucleases, including Cas9, Cas12a, Cas13, prime editing enzymes, and others. These libraries were developed to address the need for better CRISPR screening solutions. They are chemically modified guide RNAs (gRNAs) synthesized on the IDT proprietary high-fidelity RNA manufacturing platform to provide high quality, reliable gRNA libraries with fast delivery.

Benefits

1. Innovative solution offered by a global leader in RNA synthesis and CRISPR innovation
2. Reliable, consistent, and fast delivery, with custom formulations available to suit a variety of project needs
3. Adaptable for alternative CRISPR systems such as Cas12a, Cas13, and prime editing
4. Enhanced nuclease resistance for maximal editing in Cas9-expressing cells or via ribonucleoproteins (RNP)
5. Optimized RNA synthesis processes to mitigate cross-contamination risk

Ordering information

Features	Options
Design	Predesigned, custom, user-provided
CRISPR systems	Cas9, Cas12a, Cas13, prime editing, and other alternative systems
Guaranteed yield	0.5 nmol, 2 nmol, 5 nmol, and custom normalized deliverables
Cas9 gRNA formats	2-part crRNA:tracrRNA complex and sgRNA
Custom lengths supported	30–150 nt
Chemical modifications	2′-O-methyl RNA, PS linkages, end-blocking Alt-R modifications
Plate types	96- & 384-well PCR, Deep-well, V-bottom, ECHO, custom options available
Formulation options	Multi-guide per well; pooled by gene Arrayed (single gRNA/well) Custom formulations upon request
QC	Individual ESI/MS
Supporting reagents & functional analysis pipeline (optional)	WT Cas9, HiFi Cas9, Cas12a. and Cas12a *Ultra* Glycerol-free options available in tubes or plates (ideal for robotics) Electroporation Enhancers rhAmpSeq™ CRISPR Analysis System (NGS-based on-/off-target editing analysis)

Alt-R CRISPR-Cas9 sgRNAs provide remarkable editing in jurkat cells

To highlight the editing efficiency of sgRNAs, we designed sgRNAs targeting 255 sites across the human genome and delivered them to Jurkat cells (a human T-lymphocyte-derived cancer cell line) along with Alt-R S.p. WT Cas9 Nuclease V3. The result of this experiment shows that Alt-R CRISPR-Cas9 sgRNAs provide high levels of editing (Figure 1).

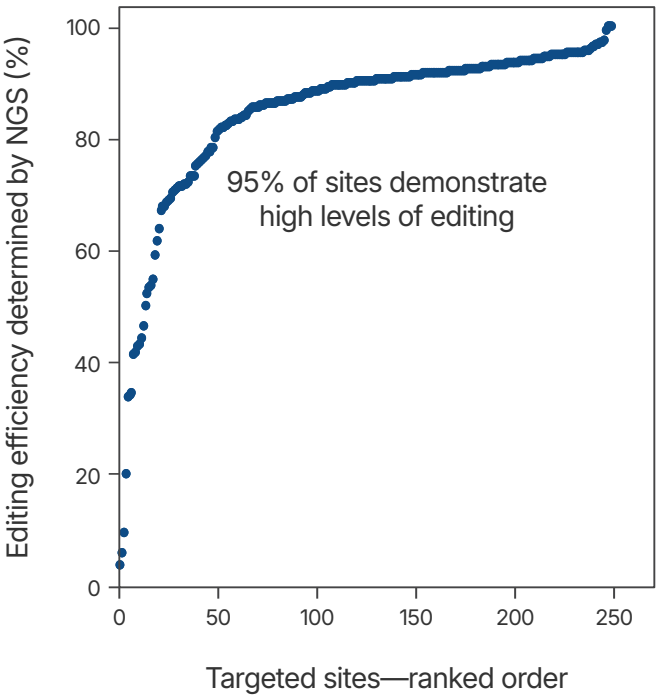

Figure 1. High levels of editing with Alt-R CRISPR-Cas9 sgRNAs. Ribonucleoprotein (RNP) complexes were formed with Alt-R S.p. WT Cas9 Nuclease V3, combined with Alt-R Cas9 sgRNAs synthesized for 255 randomly selected Cas9 guide RNA sites across the human genome. RNP complexes (4 µM) were delivered into Jurkat cells via a Nucleofector™ system (Lonza) in the presence of Alt-R Cas9 Electroporation Enhancer. Genome editing efficiencies were determined by target amplification followed by next generation sequencing (NGS) on an Illumina™ instrument.

Library solutions for other CRISPR systems

Don't see what you're looking for? We are continually expanding our CRISPR library products, and we may have what you need. If you are interested in other chemically modified gRNAs (such as CRISPR on/off systems) targeting any sequence from any species, email our CRISPR experts today to discuss customized solutions for your research at **CRISPR@idtdna.com**.

For more information, visit **idtdna.com/CRISPR**