

Services

- Custom Research & Development

+
- Custom Production

+
- Custom Formulation & Conjugation

+
- GTOnco™ Immuno-Oncology Assay Services

+
- Analytical Testing & Quality Control

+
- CRISPR assisted Gene Editing Solutions

-
- CRISPR assisted Cell Line Development

+
- CRISPR related Delivery Agent Construction

+
- CRISPR based Screening Solutions

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- Genome-Wide CRISPR Screening
- CRISPRa Screening
- CRISPRi Screening
- Single-Cell CRISPR Screening
- Custom CRISPR Screening
- Disease Modeling related Gene Editing
- Library Design through CRISPR
- Nuclease Activity Measurement

Genome-Wide CRISPR Screening Service

Introduction of Genome-Wide CRISPR Screening Service

Workflow of Genome-

Inquiry Now

Creative Biolabs offers a specialized genome-wide CRISPR screening service, leveraging the precision of CRISPR knockout (CRISPRko) technology to systematically explore gene functions across the genome. Using sgRNA libraries to induce targeted gene disruptions, CRISPRko screens help identify genes critical for phenotypes like drug resistance, cell viability, and proliferation. This high-throughput approach is essential for discovering therapeutic targets, mapping biological pathways, and advancing functional genomics. Compared to RNAi, CRISPRko ensures greater specificity and efficiency. We provide comprehensive solutions—from CRISPR library design to data analysis—empowering your research in oncology, infectious disease, and beyond with reliable, high-impact results.

Introduction of Genome-Wide CRISPR Screening Service

Genome-wide CRISPR knockout (CRISPRko) screening is a powerful tool in functional genomics, enabling large-scale, systematic disruption of genes to investigate their roles in various biological processes, via integrating high-coverage sgRNA libraries, efficient lentiviral delivery, and comprehensive bioinformatics analysis. The technology is based on the CRISPR-Cas9 system, where a sgRNA directs Cas9 to a specific genomic site, inducing a double-strand break. This is repaired through NHEJ, often resulting in frameshift mutations that cause permanent gene knockout. CRISPRko libraries offer comprehensive genome-wide coverage, targeting all protein-coding genes with couples of sgRNAs per gene to ensure high knockout efficiency and low off-target effects. Applications of CRISPRko screening include identifying essential genes in cancer, discovering drug resistance mechanisms, and exploring gene function in cell differentiation, signaling, and metabolism—supporting both basic research and therapeutic innovation.

Workflow of Genome-Wide CRISPR Screening Service

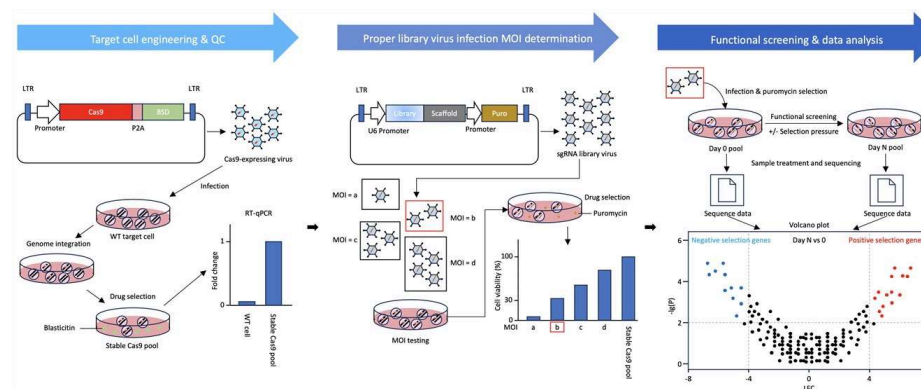


Fig. 1 Workflow of our genome-wide CRISPR screening service.

Advantages of Genome-Wide CRISPR Screening Service

- **High-Coverage sgRNA Libraries** - The libraries cover all protein-coding genes in genome level with 4–6 sgRNAs per gene, ensuring high knockout efficiency and reliable screening results.
- **Optimized Lentiviral Delivery System** - Mature lentiviral packaging enables efficient Cas9 integration and stable sgRNA delivery across various cell types.
- **Strict Quality Control & Robust Data Analysis** - Every step—from library prep to analysis—is tightly controlled. Our bioinformatics pipeline provides accurate hit identification and clear biological insights.
- **Flexible Screening Strategies** - Supports various levels of library design and customizable experimental workflows to accommodate diverse research objectives and project requirements.
- **Affordable Pricing & Excellent Support** - Competitive pricing with responsive, professional support ensures a smooth project experience from start to finish.

How Genome-Wide CRISPR Screening Service Can Assist Your Project

At Creative Biolabs, our genome-wide CRISPR screening service follows a rigorous and well-validated workflow designed to ensure accuracy, reproducibility, and meaningful outcomes. From high-quality sgRNA library preparing and precise lentiviral packaging, to virus infection optimization, screening execution, and deep sequencing, every step is carried out under strict quality control standards. Our comprehensive bioinformatics analysis interprets the screen results with high precision, identifying significantly enriched or depleted sgRNAs that point to key genes involved in your phenotype of interest. This powerful approach enables you to uncover essential genes, regulators of drug resistance, novel therapeutic targets, and critical components of biological pathways. Whether you're working on cancer biology, infectious disease, stem cell

research, or drug development, our service provides actionable data to drive your research forward.

Let **Creative Biolabs** help you accelerate your discovery with confidence. [Contact us](#) today to discuss how our genome-wide CRISPR screening service can be tailored to meet your scientific goals.

Related Sections

[Single-Cell CRISPR Screening](#)[Custom CRISPR Screening](#)[CRISPRi Screening](#)[CRISPRa Screening](#)

Services

Custom Nucleic Acid Production
Custom GalNAc-siRNA conjugation
Custom Viral Vector Development
siRNA In Vitro Screening
GTOnco™ Immuno-Oncology Assay Services

Products

Recombinant Virus
Antisense Oligonucleotides (ASOs)
Small Interfering RNA (siRNA)
SARS-CoV-2 Research

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