

Lab & Production Materials



Determining Which Screening Option is Right for Your Experiment

Designing a screening experiment can be daunting with all the technologies and formats available. With the largest portfolio of screening tools on the market, we can help ensure you have the right tools at the right scale to meet your goals.

MISSION® Plasmids Viral Plasmids Lentivirus Library preparation • 1000's of gRNAs in MISSION® Lentivirus Pooled Library Transduction Library delivery Cells grown in culture Screen Selection for sgRNA-containing cells Enrichment/Selection (if required) Positive or Negative Selection e.g. Drug treatment Cell Perturbation e.g. Drug treatment NGS of Measurement integrated clones Analysis Determine Phenotypic Changes by high throughput microscopy, fluorescence or Deconvolution: Analysis of clones enriched or depleted

Pooled library screening

Screening Workflows

Arrayed library screening

Synthetics

5

Arrayed

library

Arrayed cells

Transduction/

Transfection

luminescence detection

Arrayed

- 1 gRNA per well
- Multiple format options
- Time to screen increases with # of clones
- in vivo screening not possible
- No NGS required to understand results
- Multiple options for phenotype/readout e.g. fluorescence, luminescence, high content imaging



Pooled

one tube

- Whole genome can be screened efficiently
- in vivo screening possible
- Deconvolution/NGS required to analyze data/identify hits
- Limited options for phenotype/readout e.g. cell death or proliferation

.....TGACAT.... ATCAGGGACATGAT..TGAGCATCTGATATGACATCGA..

Validation of hits

Compare Your Options

Every screening format has advantages over others so it is important to consider your end goals. Often times it is necessary to utilize multiple approaches to fully understand genetic perturbations as they relate to phenotype. Below are guidelines and specifications for various loss-of-function or gain-of-function options.



	Library	Туре	Pooled or Arrayed	Number of Clones	Avg. Clones per Gene	Available Formats	Specifications	Vector Components	Price
	Sanger whole genome library	Knockout	Arrayed	~34,000	~2 per gene	Lentivirus or Glycerol stocks	10 µL @ min. 1x10 ⁶ VP/mL in 102x384 well plates	gRNA only; Puromycin; BFP	+++
	GeCKO whole genome library	Knockout	Pooled	~124,000	~6 per gene	Lentivirus	200 μL (8x25 μL) @ min. 5x10 ⁸ VP/mL	gRNA only or all-in- one with Puromycin	+
RISPR	Sigma whole genome library	Knockout	Pooled	~184,000	~10 per gene	Lentivirus	200 μL (8x25 μL) @ min. 5x10 ⁸ VP/mL	Puromycin	+
ц Ц	CRISPRa SAM whole genome library	Activation	Pooled	~70,000	~3 per Transcriptional Start Sites	Lentivirus	200 μL (8x25 μL) @ min. 5x10 [®] VP/mL	gRNA only with Puromycin or Zeocin	++
	CRISPRi whole genome library	Inhibition	Pooled	~258,000	~10 per Transcriptional Start Sites	Lentivirus	200 μL (8x25 μL) @ min. 5x10 ⁸ VP/mL	gRNA only; Puromycin; BFP	++
INA	MISSION [®] TRC LentiElite shRNA whole genome library	Knockdown	Arrayed	~130,000	~6 per gene	Lentivirus or Glycerol stocks	200 μL (8x25 μL) @ min. 5x10 [®] VP/mL	Puromycin	+++
shR	MISSION® LentiPlex shRNA whole genome pooled library	Knockdown	Pooled	~130,000	~6 per gene	Lentivirus	200 μL (8x25 μL) @ min. 5x10 [®] VP/mL	Puromycin	++
٦F	MISSION [®] TRC3 ORF whole genome arrayed library	Over expression	Arrayed	~33,000	~3 per gene	Lentivirus or Glycerol stocks	200 μL (8x25 μL) @ min. 5x10 [®] VP/mL	Puromycin	++++
õ	MISSION [®] TRC3 ORF whole genome pooled library	Over expression	Pooled	~17,000	~3 per gene	Lentivirus	200 μL (8x25 μL) @ min. 5x10 ⁸ VP/mL	Puromycin	+++

We offer fully customizable solutions for any scale and technology. For smaller screens, off-the-shelf gene family panels and pools are available, or we can create one based on your specific gene list. Our expert lentiviral manufacturing capabilities also enable you to select specific vector options optimized for your experiment.

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