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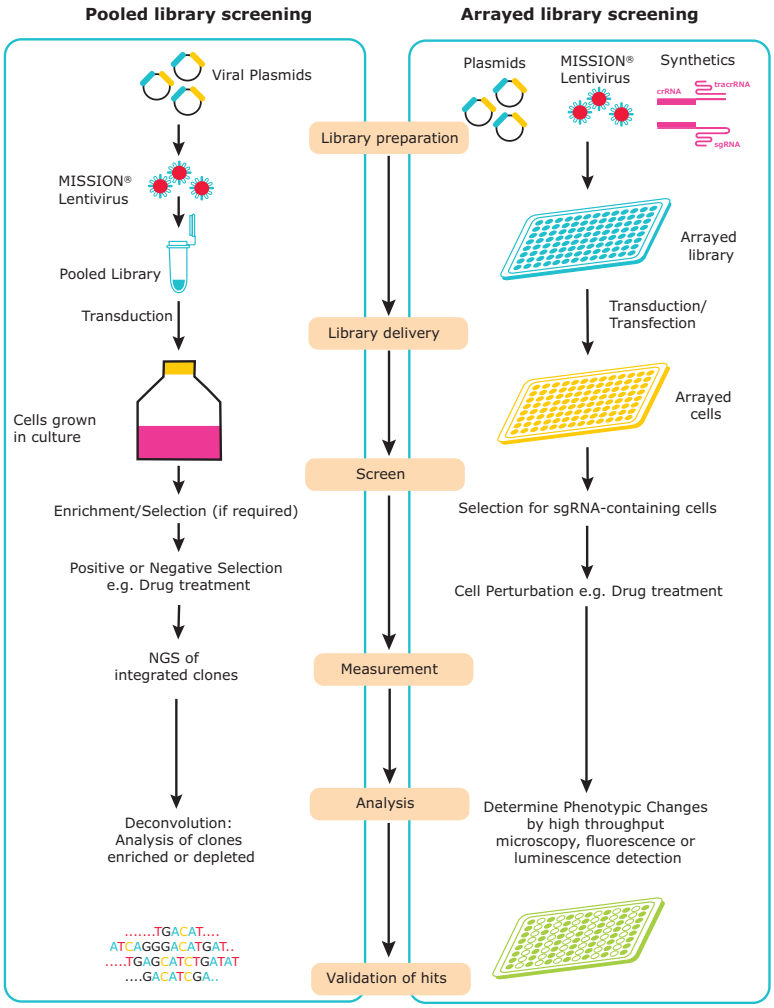
Determining Which Screening Option is Right for Your Experiment

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.

Screening Workflows



Pooled

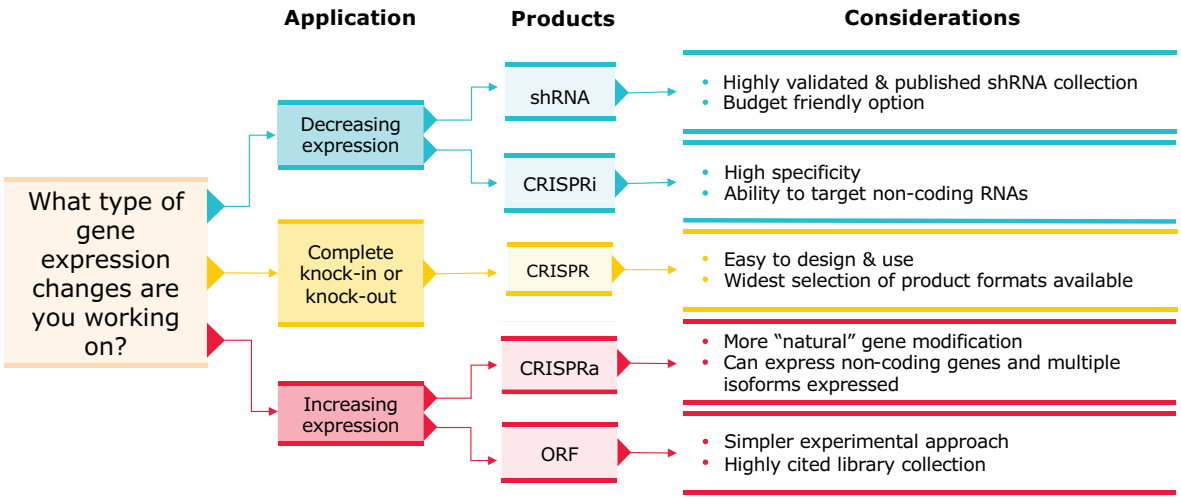
- 1000's of gRNAs in one tube
- Lentivirus required
- Whole genome can be screened efficiently
- *in vivo* screening possible
- Deconvolution/NGS required to analyze data/identify hits
- Limited options for phenotype/readout e.g. cell death or proliferation

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

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	Type	Pooled or Arrayed	Number of Clones	Avg. Clones per Gene	Available Formats	Specifications	Vector Components	Price
CRISPR	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	+
	Sigma whole genome library	Knockout	Pooled	~184,000	~10 per gene	Lentivirus	200 µL (8x25 µL) @ min. $5x10^8$ VP/mL	Puromycin	+
	CRISPRa SAM whole genome library	Activation	Pooled	~70,000	~3 per Transcriptional Start Sites	Lentivirus	200 µL (8x25 µL) @ min. $5x10^8$ 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	++
shRNA	MISSION® TRC LentiElite shRNA whole genome library	Knockdown	Arrayed	~130,000	~6 per gene	Lentivirus or Glycerol stocks	200 µL (8x25 µL) @ min. $5x10^8$ VP/mL	Puromycin	+++
	MISSION® LentiPlex shRNA whole genome pooled library	Knockdown	Pooled	~130,000	~6 per gene	Lentivirus	200 µL (8x25 µL) @ min. $5x10^8$ VP/mL	Puromycin	++
ORF	MISSION® TRC3 ORF whole genome arrayed library	Over expression	Arrayed	~33,000	~3 per gene	Lentivirus or Glycerol stocks	200 µL (8x25 µL) @ min. $5x10^8$ VP/mL	Puromycin	++++
	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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