

Whole Genome SAM CRISPRa Libraries

A complete kit for genome scale activation

Synergistic Activation Mediator (SAM) lentivirus for gain of function screening

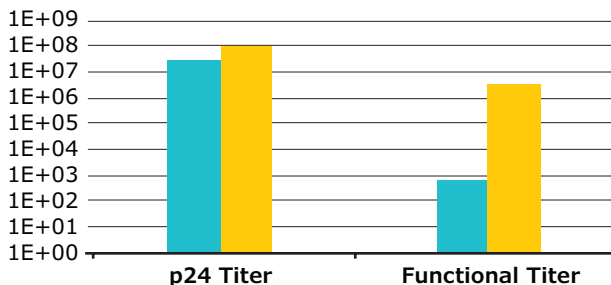
SAM CRISPRa Libraries provide human or mouse genome-wide transcriptional activation in Puro or Zeo resistance formats. This offers enhanced delivery for long-term gene expression in a variety of cell lines. SAM CRISPRa pools offer fast, easy, and cost-effective screening without the need for automation, liquid handling or robotics required for arrayed screens. Amplify your ability to uncover biological processes, pathways and functions through discovery of novel gene and drug targets involved in disease or development.

Ready-to-use Pooled Lentivirus

Each kit contains 8 x 25 µL aliquots of 5 different components:

- dCas9-VP64-Blasticidin
- MS2-P65-HSF1-Hygromycin
- SAM CRISPRa Library Pools 1, 2 & 3

Improved Functional Titer

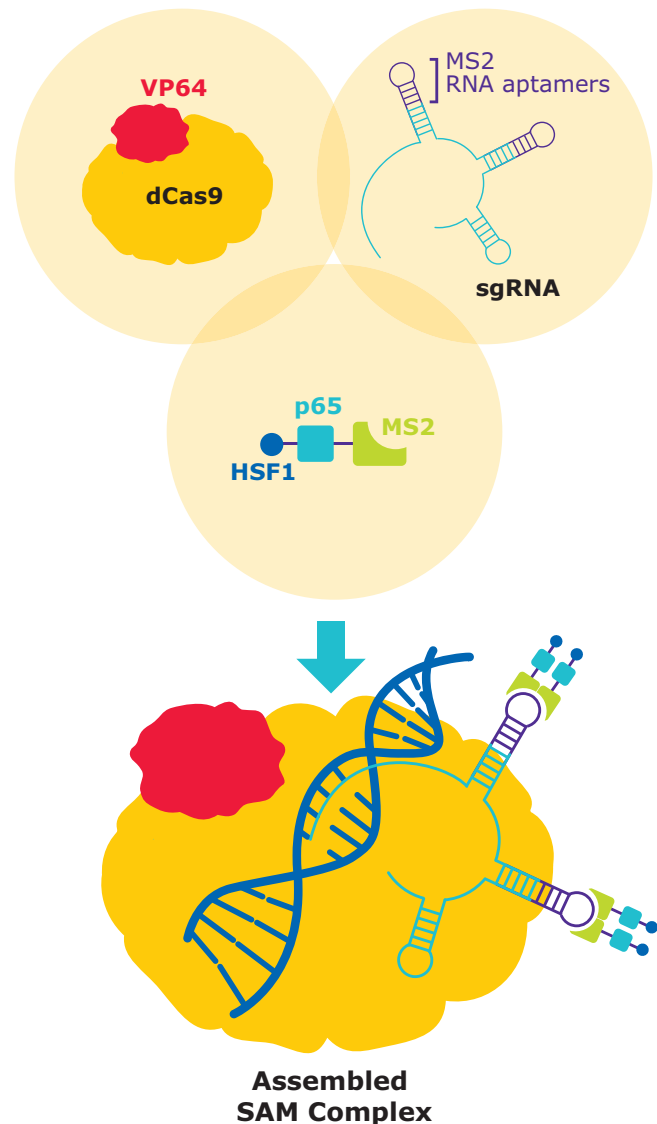


- Original Vector
- Improved Vector

P24 and Functional Titer Comparison

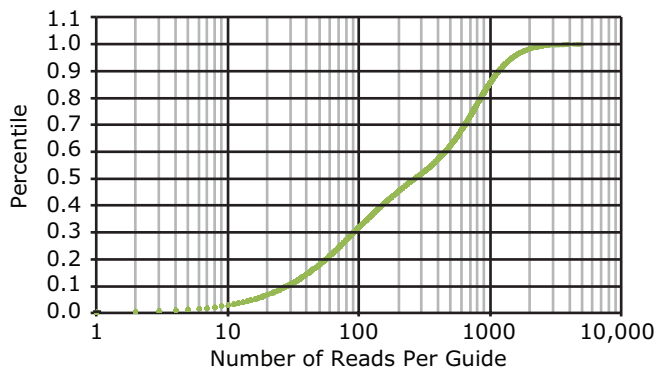
Improvements made to the lentiviral backbone lead to approximately 4400 times higher functional titer when measured by CFU assay.

The life science business of Merck operates as MilliporeSigma in the U.S. and Canada.

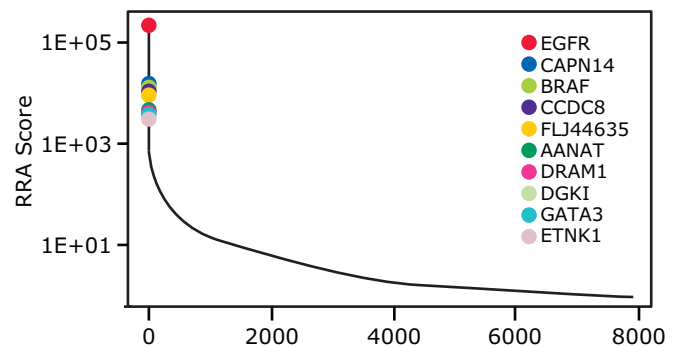


Whole Genome SAM CRISPRa Libraries

Guide Distribution CRISPR SAM HsZeo1 T=0



Enrichment of Activated genes



Highly Functional Lentiviral Libraries

Cells transduced with the gRNA library and positively selected for zeo resistance showed > 99% coverage by next generation sequencing analysis.

Enrichment Screen and Library Validation

A375 BRAF-mutant melanoma cells were screened for resistance to PLX4720-mediated cell death using Human Whole Genome SAM CRISPRa Pooled Lentiviral Library Kit (pool 1 only). As reported in Konermann et al. (2015), guides targeting EGFR for activation showed significant enrichment.

Ordering Information

Product Description	Cat. No.
SAM Helper Constructs: Plasmid DNA	
dCas9-VP64-Blasticidin SAM CRISPRa Helper Construct 1 Plasmid DNA	SAMVP64BST-10UG
MS2-P65-HSF1-Hygromycin SAM CRISPRa Helper Construct 2 Plasmid DNA	SAMMS2HYG-10UG
SAM CRISPRa Helper Construct Kit Plasmid DNA	SAMHELPERP-1KT
SAM Helper Constructs: Lentiviral Particles	
dCas9-VP64-Blasticidin SAM CRISPRa Helper Construct 1 Lentiviral Transduction Particles	SAMVP64BSTV-8X25UL
MS2-P65-HSF1-Hygromycin SAM CRISPRa Helper Construct 2 Lentiviral Transduction Particles	SAMMS2HYGV-8X25UL
SAM CRISPRa Helper Construct Kit Lentiviral Transduction Particles	SAMHELPERV-1KT
Whole Genome SAM CRISPRa Pooled Lentiviral Library Kits Contains lentiviral particles for 3 gRNA pools and both helper constructs	
Human Whole Genome SAM CRISPRa Pooled Lentiviral Library Kit Zeo	HSAMZEO-1KT
Human Whole Genome SAM CRISPRa Pooled Lentiviral Library Kit Puro	HSAMPURO-1KT
Mouse Whole Genome SAM CRISPRa Pooled Lentiviral Library Kit Zeo	MSAMZEO-1KT
Mouse Whole Genome SAM CRISPRa Pooled Lentiviral Library Kit Puro	MSAMPURO-1KT

For more information, please visit
[SigmaAldrich.com/CRISPR](https://www.sigmaaldrich.com/CRISPR)

For questions, please email
CRISPR@sial.com

To place an order or receive technical assistance

Order/Customer Service: [SigmaAldrich.com/order](https://www.sigmaaldrich.com/order)
Technical Service: [SigmaAldrich.com/techservice](https://www.sigmaaldrich.com/techservice)
Safety-related Information: [SigmaAldrich.com/safetycenter](https://www.sigmaaldrich.com/safetycenter)

Merck KGaA
Frankfurter Strasse 250, 64293
Darmstadt, Germany

[SigmaAldrich.com](https://www.sigmaaldrich.com)

