
Supplementary information

**Profiling the genetic determinants of
chromatin accessibility with scalable
single-cell CRISPR screens**

In the format provided by the
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Supplementary materials

Scalable pooled CRISPR screens with single-cell chromatin accessibility profiling

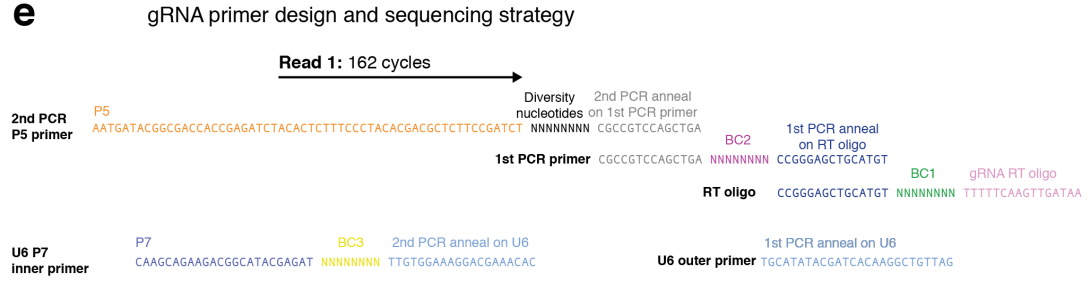
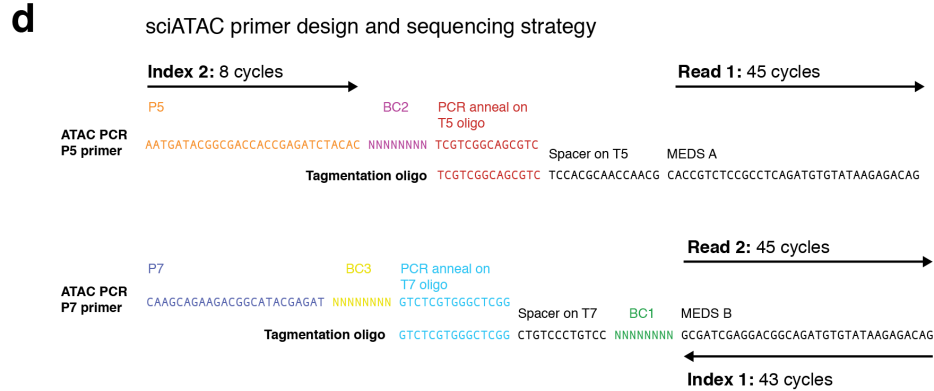
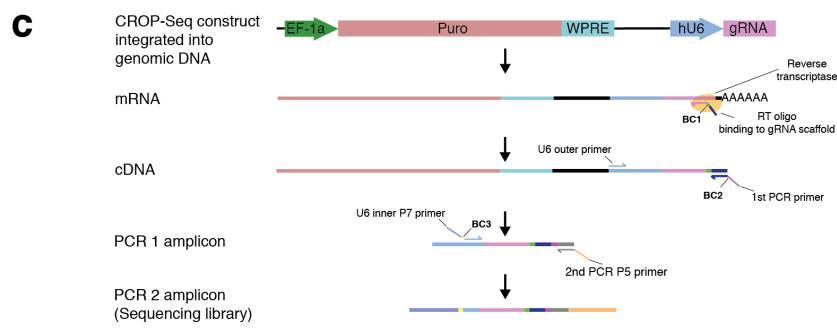
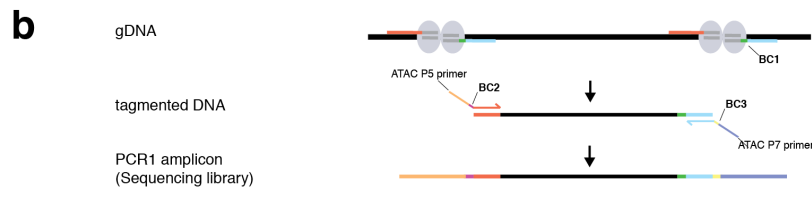
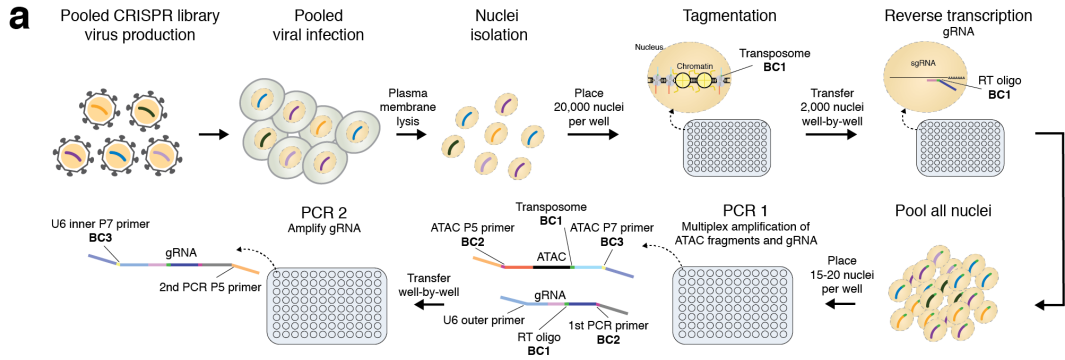
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Supplementary tables

- Supplementary Table 1. Number of cells in each step of the CRISPR-sciATAC protocol.
- Supplementary Table 2. Sequences of oligonucleotides for CRISPR-sciATAC, CRISPR libraries and qRT-PCR.
- Supplementary Table 3. Gene and guide RNA enrichment from essentiality screen.
- Supplementary Table 4. ENCODE ChIP data sources.
- Supplementary Table 5. Histone mark differential accessibility.
- Supplementary Table 6. GO enrichment results of differential accessibility in *EZH2*-targeted cells.
- Supplementary Table 7. Transcription factor binding site differential accessibility.
- Supplementary Table 8. Cost comparison between CRISPR-sciATAC and Perturb-ATAC protocols.
- Supplementary Table 9. Time comparison between CRISPR-sciATAC and Perturb-ATAC protocols.



Supplementary Figure 1. CRISPR-sciATAC library preparation and sequencing. (a) Workflow for CRISPR-sciATAC. BC, barcode. Cell barcodes consist of a unique combination of

BC1, BC2, and BC3. **(b)** CRISPR-sciATAC schematic for ATAC-seq library preparation. **(c)** CRISPR-sciATAC schematic for guide RNA (gRNA) library preparation. **(d)** CRISPR-sciATAC primer design and sequencing strategy for ATAC fragments. **(e)** CRISPR-sciATAC primer design and library sequencing strategy for gRNA amplicons. Staggered P5 oligos were introduced in the library preparation to introduce sequence diversity. BC 1, 2, and 3 are matched for ATAC-seq and gRNA libraries, e.g. the ATAC-seq BC 1 in well A1 in the 96-well plate where tagmentation is performed is the same as the gRNA BC 1 in well A1 in the 96-well plate where reverse transcription is performed.