

Supplementary Information

High-throughput chromatin accessibility profiling at single-cell resolution

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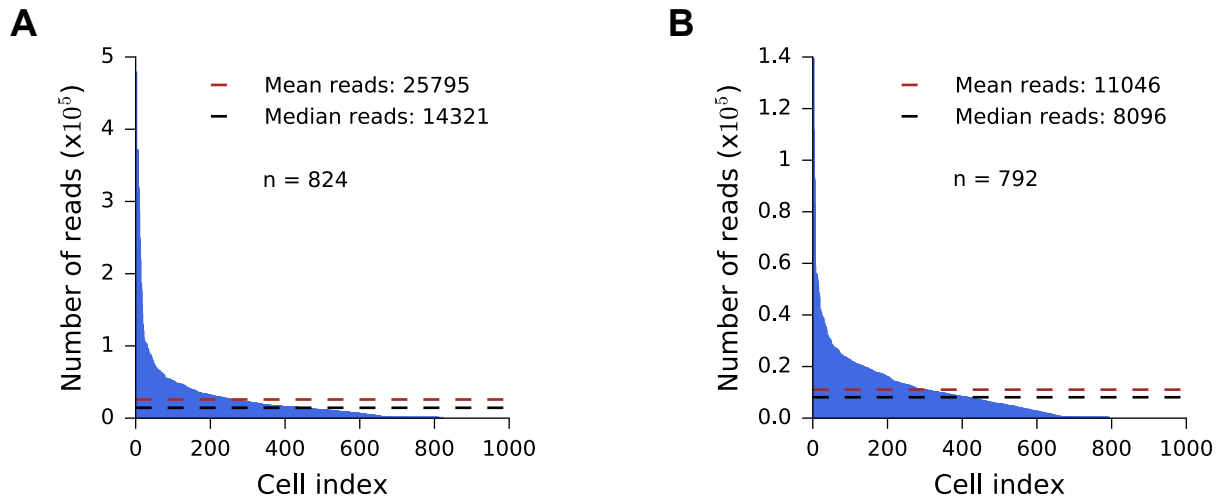
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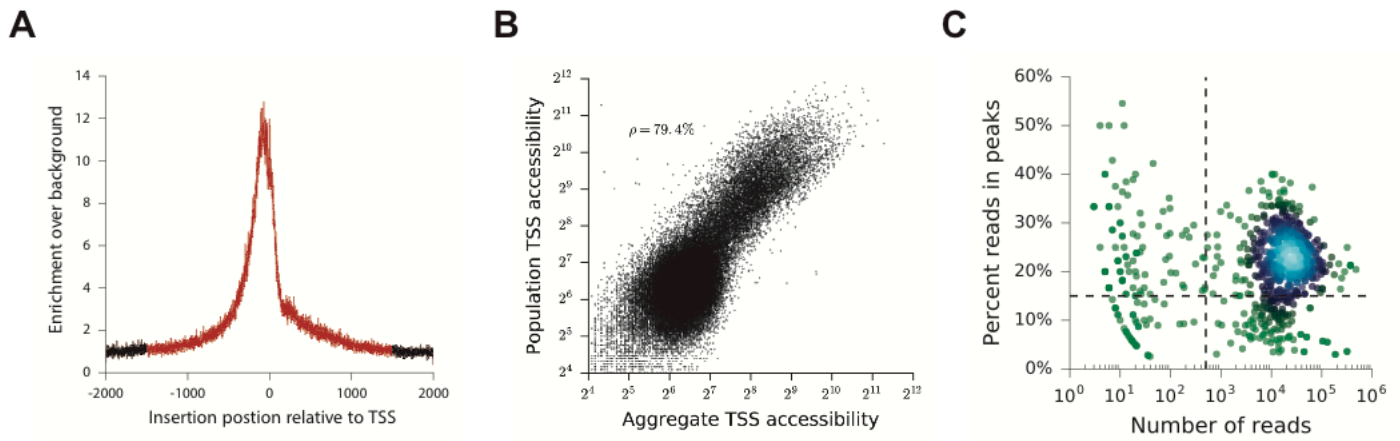
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*These authors contributed equally.

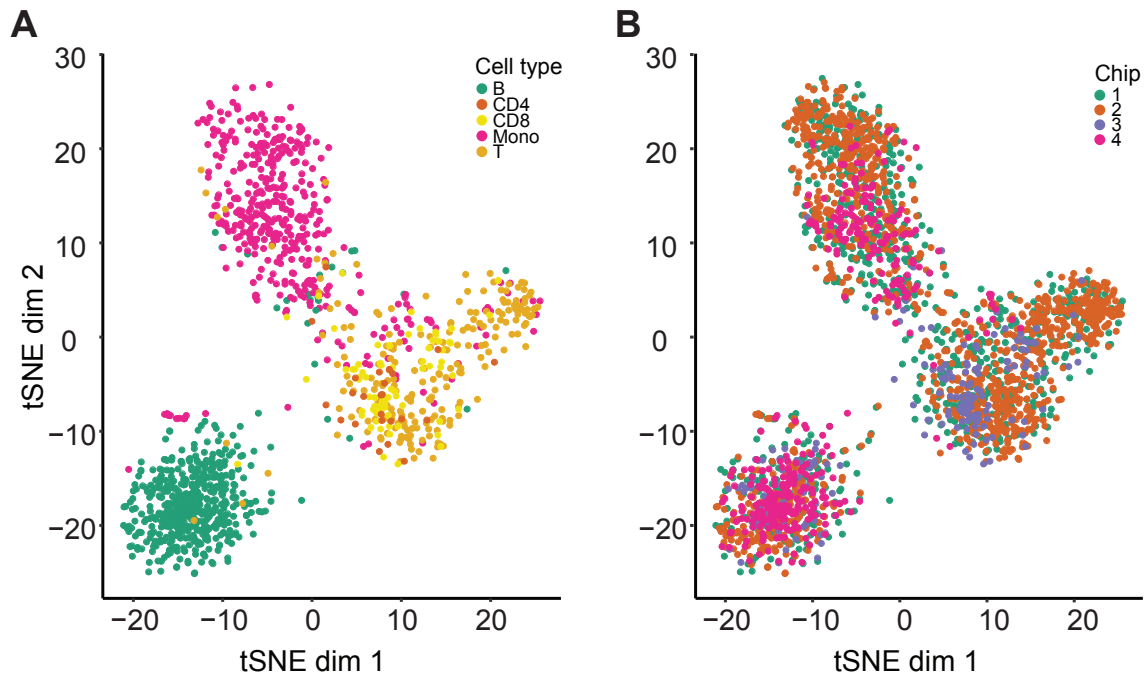
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Supplementary Fig. 1 | Number of fragments per cell for **(A)** Human lymphoblastoid GM12878 cells and **(B)** Mouse embryonic stem cells.



Supplementary Fig. 2 | (A) Enrichment of aggregated scATAC-seq fragments at transcription start sites for human lymphoblastoid GM12878 cells. (B) Correlation between aggregated scATAC-seq and population ATAC-seq fragments within 2kb upstream and 1kb downstream of transcription start sites for GM12878 cells (2018 Ensembl annotation). (C) Signal-to-background (percent reads in peaks) as a function of read depth for human lymphoblastoid GM12828 cells.



Supplementary Fig. 3 | (A) tSNE on normalized ChromVar deviations for CD4⁺ T, CD8⁺ T, T, B and monocyte cells labeled by isolated cell type. (B) tSNE visualization of all analyzed single cells labeled by chip (note that chip 3 was loaded only with B and T cells and chip 4 was loaded only with monocytes and B cells).

Supplementary Table 2 | Hematopoietic cell type isolation and cluster purity

	T cells	CD4 T cells	CD8 T cells	B cells	Monocytes
Maximum isolation purity¹	97%	96%	91%	95%	92%
scATAC cluster purity	91.4%	91.7%	91.7%	95.3%	82.5%

¹Estimates of isolation purity provided by the manufacture (STEMCELL Technologies Inc.)

Supplementary Table 3 | Custom i5 and i7 indices¹. All primers have been previously tested and can be used interchangeably.

Custom Adapter 1 (i5):

v2_Ad1.1_TAGATCGC	AATGATACGGCGACCACCGAGATCTACACTAGATCGCTCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.2_CTCTCTAT	AATGATACGGCGACCACCGAGATCTACACCTCTCTATTTCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.3_TATCCTCT	AATGATACGGCGACCACCGAGATCTACACTATCCTCTTCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.4_AGAGTAGA	AATGATACGGCGACCACCGAGATCTACACAGAGTAGATCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.5_GTAAGGAG	AATGATACGGCGACCACCGAGATCTACACGTAAGGAGTCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.6_ACTGCATA	AATGATACGGCGACCACCGAGATCTACACACTGCATATCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.7_AAGGAGTA	AATGATACGGCGACCACCGAGATCTACACAAGGAGTATCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.8_CTAAGCCT	AATGATACGGCGACCACCGAGATCTACACCTAAGCCTTCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.9_TGGAAATC	AATGATACGGCGACCACCGAGATCTACACTGGAAATCTCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.10_AACATGAT	AATGATACGGCGACCACCGAGATCTACACAACATGATTTCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.11_TGATGAAA	AATGATACGGCGACCACCGAGATCTACACTGATGAAATCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.12_GTCGGACT	AATGATACGGCGACCACCGAGATCTACACGTCGGACTTCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.13_TTTCTAGC	AATGATACGGCGACCACCGAGATCTACACTTTCTAGCTCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.14_TAACCAAG	AATGATACGGCGACCACCGAGATCTACACTAACCAAGTCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.15_GTGTATCG	AATGATACGGCGACCACCGAGATCTACACGTGTATCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.16_TCCATCAA	AATGATACGGCGACCACCGAGATCTACACTCCATCAATCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.17_TTCGTGCA	AATGATACGGCGACCACCGAGATCTACACTTCGTGCATCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.18_AGGTTGCC	AATGATACGGCGACCACCGAGATCTACACAGTTGCCCTCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.19_CCTTATGT	AATGATACGGCGACCACCGAGATCTACACCCTTATGTTTCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.20_CAGCAACG	AATGATACGGCGACCACCGAGATCTACACCAGCAACGTCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.21_GGTTCAAT	AATGATACGGCGACCACCGAGATCTACACGGTTCAATTCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.22_ACATTCGT	AATGATACGGCGACCACCGAGATCTACACACATTCGTTTCGTCGGCAGCGTCAGATGTGTAT
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v2_Ad1.24_CGGACTGC	AATGATACGGCGACCACCGAGATCTACACCGACTGCTCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.25_AGCCGTTT	AATGATACGGCGACCACCGAGATCTACACAGCCGTTTCGTCGGCAGCGTCAGATGTGTAT
v2_Ad1.26_ATTGGGTC	AATGATACGGCGACCACCGAGATCTACACATTGGGTCTCGTCGGCAGCGTCAGATGTGTAT
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v2_Ad1.88_TTCAATCC
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v2_Ad2.3_AGGCAGAA
v2_Ad2.4_TCCTGAGC

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v2_Ad2.5_GGACTCCT
v2_Ad2.6_TAGGCATG
v2_Ad2.7_CTCTCTAC
v2_Ad2.8_CAGAGAGG
v2_Ad2.9_GCTACGCT
v2_Ad2.10_CGAGGCTG
v2_Ad2.11_AAGAGGCA
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CAAGCAGAAGACGGCATAACGAGATCAATGGTGGTCTCGTGGGCTCGGAGATGTG
CAAGCAGAAGACGGCATAACGAGATGTCTTATTGTCTCGTGGGCTCGGAGATGTG

Supplementary References

- ¹ Buenrostro, J. D. et al. Single-cell chromatin accessibility reveals principles of regulatory variation. *Nature* **523**, 486–490 (2015).