

The role of Cdx2 as a lineage specific transcriptional repressor for pluripotent network during the first developmental cell lineage segregation

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Supplementary Materials

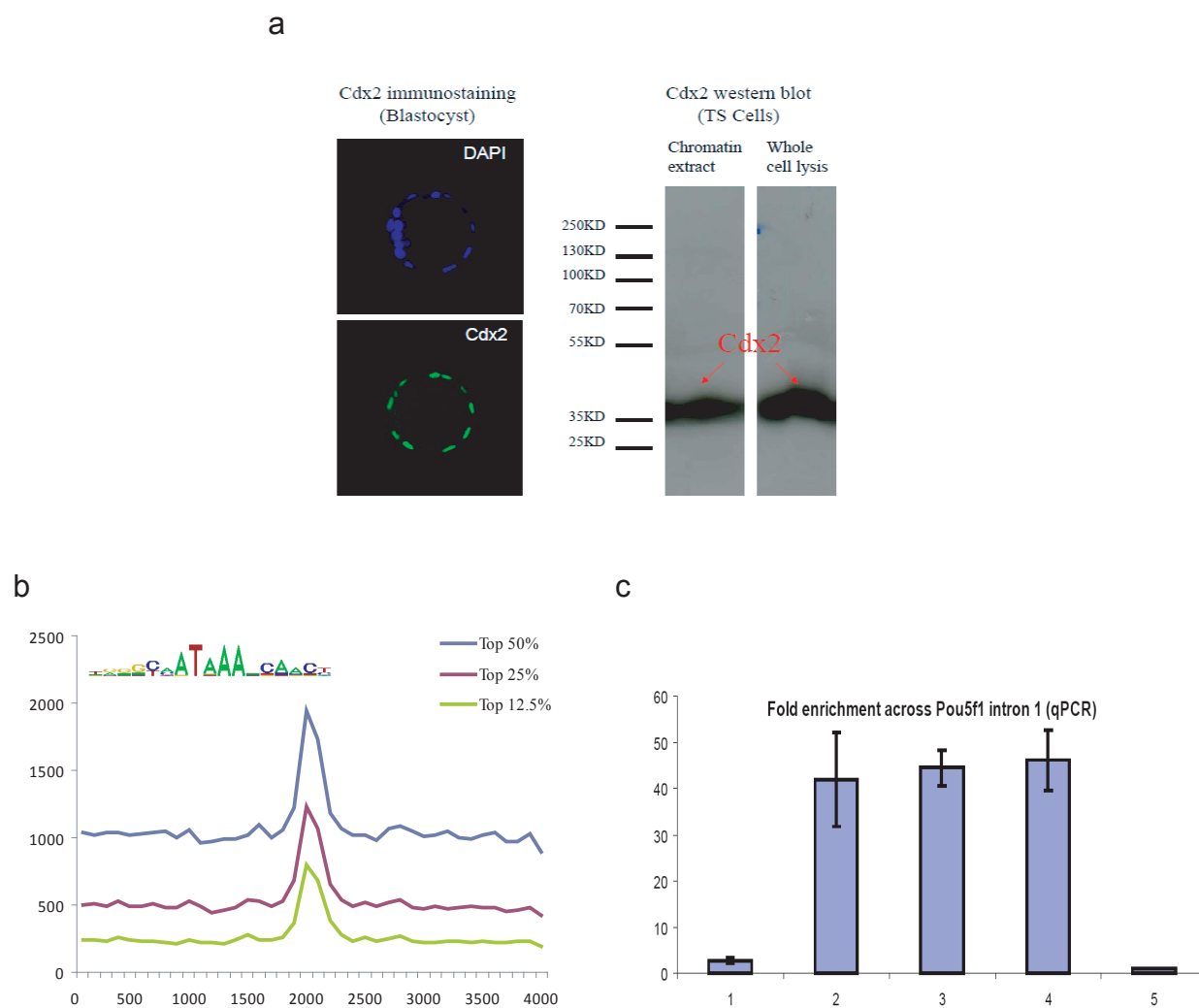


Figure S1 CDX2 ChIP-Seq in trophoblast stem cells (Related to Figure 3)

- (a) Immunostaining assay in blastocyst and western blotting in TS cell show high specificity of CDX2 antibody.
- (b) CDX2 motif is overrepresented in ChIP-enriched regions, as we looked at motif counts across 4kb windows
- (c) ChIP-qPCR results show that CDX2 binds to *Pou5f1* intron with more than 40 fold enrichment across the binding region

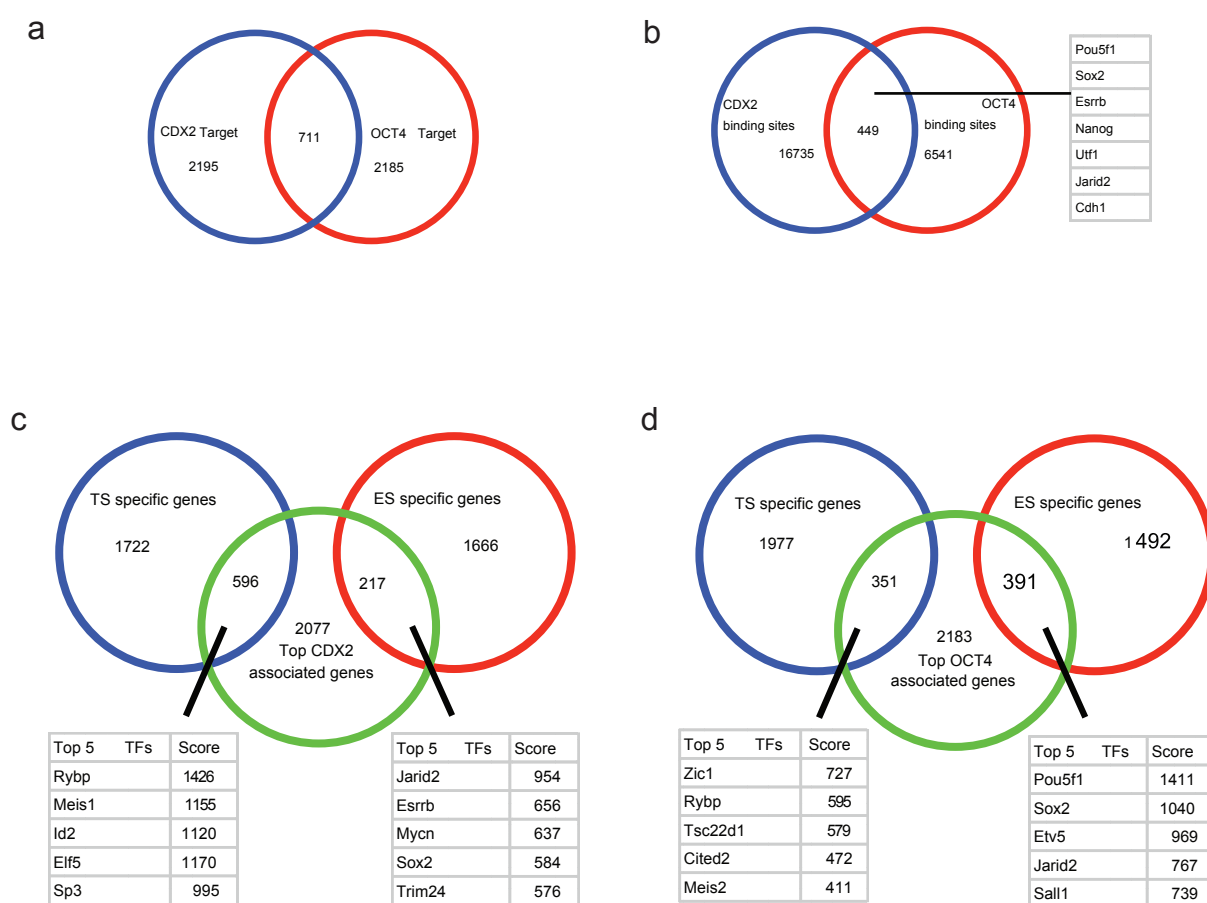


Figure S2 Comparison of CDX2 targets and OCT4 targets(Related to Figure 4)

- (a) Venn diagram shows that OCT4 and CDX2 have a significant overlap in downstream targets
- (b) Venn diagram shows that OCT4 and CDX2 have a significant overlap in binding site
- (c) Combination of CDX2 bindings with its function in TS cells and ES cells .we overlap our defined top 3000 CDX2 binding targets with TS-specific gene and ES-specific gene.
- (d) Combination of OCT4 bindings with its function in TS cells and ES cells .we overlap our defined top 3000 OCT4 binding targets with TS-specific gene and ES-specific gene.

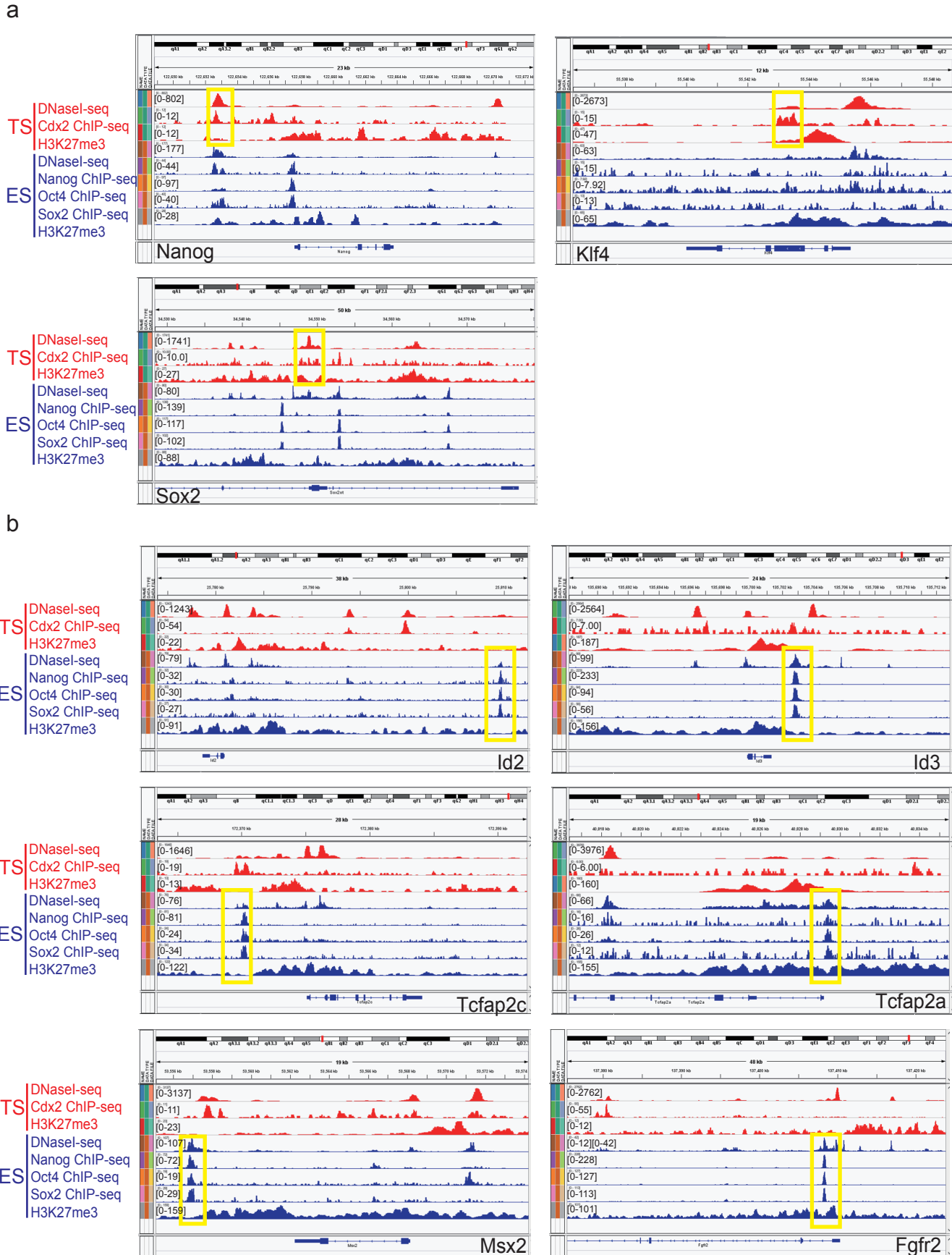


Figure S3 Integrated binding pattern of key lineage-specific genes in ES and TS cells. (Related to Figure 4)

- (a) Cdx2 binding sites at ES pluripotent markers are enriched with DNase I hypersensitive and H3K27me3 signals, includes *Nanog*, *Sox2* and *Klf4*.
- (b) OSN binding sites at TS specific markers are enriched with DNase I hypersensitive and H3K27me3 signals, includes *Id2*, *Id3*, *Tcfap2a*, *Tcfap2c*, *Msx2* and *Fgfr2*.

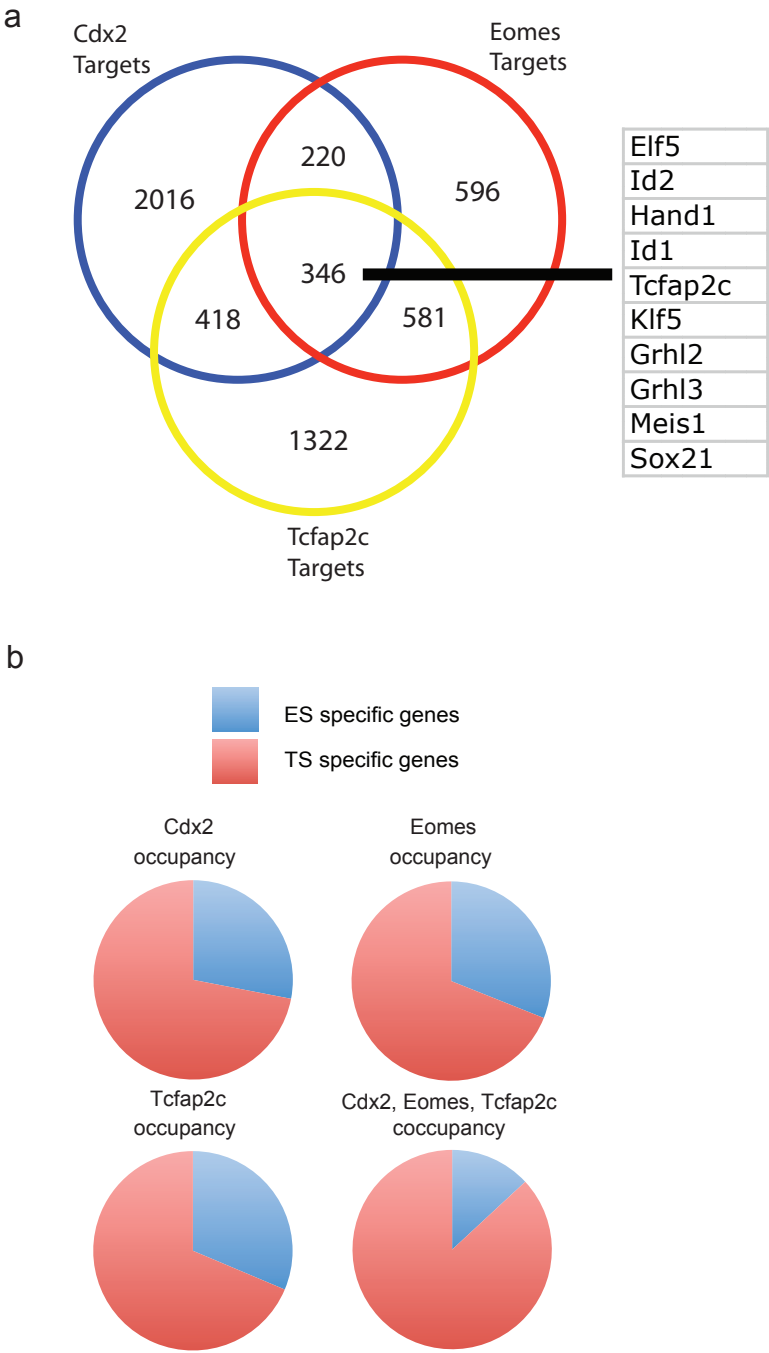


Figure S4 Integration analysis of Core regulators in TS cells.

- (a) Cdx2 co-regulate important TE lineage markers with Eomes and Tcfap2c. Top Cdx2 ChIP-seq associated transcription factors within the Cdx2, Eomes and Tcfap2c co-target list are shown in the table.
- (b) Cdx2, Eomes and Tcfap2c co-targets are more likely to be activation targets (TS lineage specific) rather than repression targets (ES lineage specific).