Figure S7

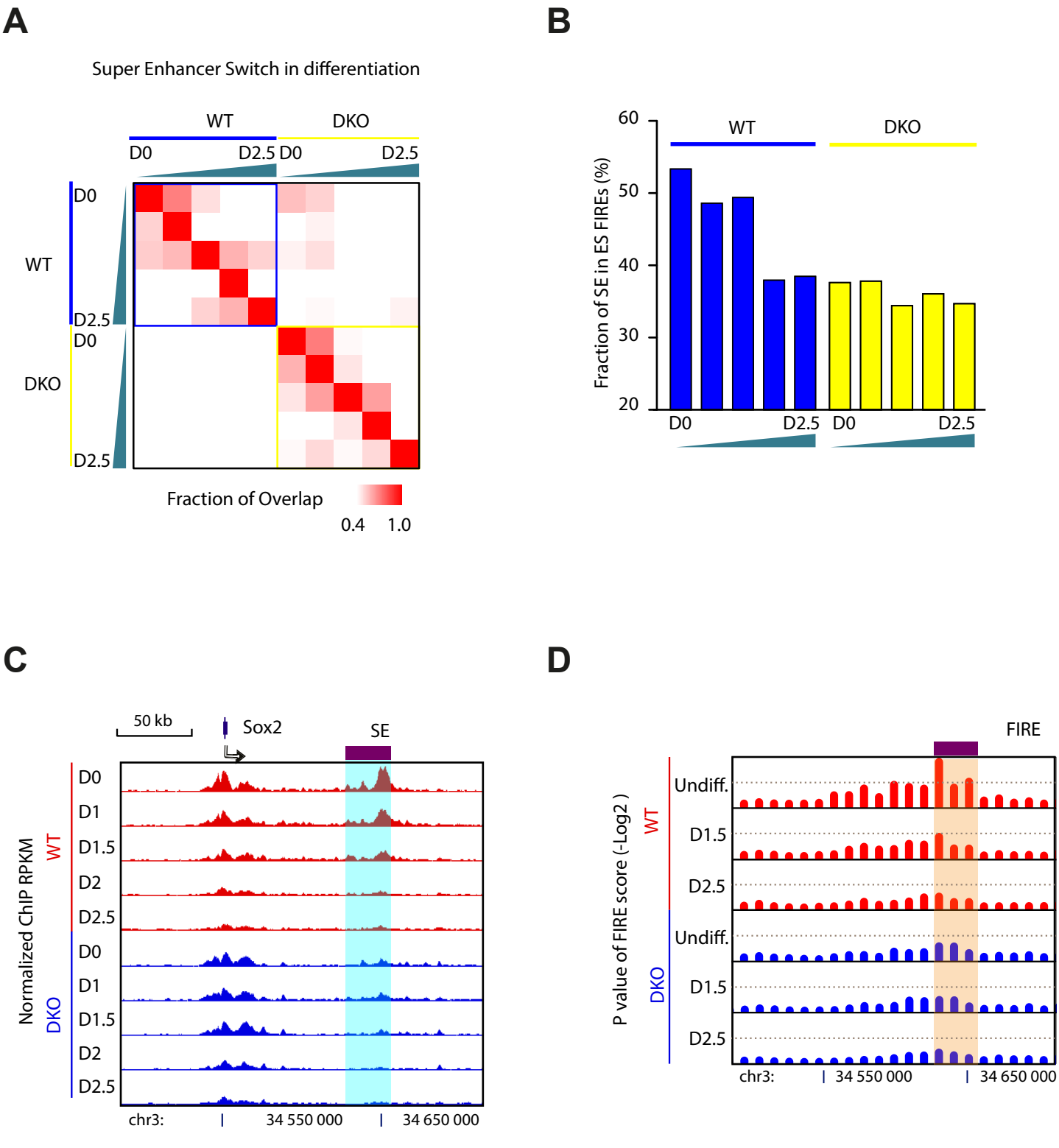
A
Super Enhancer Switch in differentiation
WT
DKO
D0
D2.5
D0
D2.5
WT
DKO
D0
D2.5
D0
D2.5
Fraction of Overlap
0.4
1.0
B
WT
DKO
Fraction of SE in ES FIREs (%)
60
50
40
30
20
D0
D2.5
D0
D2.5
C
50 kb
Sox2
SE
Normalized ChIP RPKM
WT
DKO
D0
D1
D1.5
D2
D2.5
D0
D1
D1.5
D2
D2.5
chr3:
34 550 000
34 650 000
D
FIRE
P value of FIRE score (-Log2 )
WT
DKO
Undiff.
D1.5
D2.5
Undiff.
D1.5
D2.5
chr3:
34 550 000
34 650 000

**Figure S7. Super-enhancer Call Using H3K27ac ChIP-seq Data, Related to Figure 6**

**(A)** Heatmap shows the overlapping of super-enhancers between cells at different time points during differentiation and between two cell types. Color key shows the fraction of overlapping. Green triangle shows the differentiation time, the thicker side representing later time points. D0, Day1; D2.5, Day2.5. Note that cells of the same type tend to show higher overlapping than between two cell types and that cells at consecutive time points show high fraction of shared super-enhancer.

**(B)** Fraction of super-enhancer located in FIREs that are defined in WT cells. Note that over 50% of super-enhancers are located at FIREs and they are decreased along the differentiation. DKO cells show low overlapping of super-enhancers in WT FIREs confirming its different characteristics and cell identity.

**(C)** Genome browser tracks showing change of super-enhancer activity (represented by H3K27ac) at the *Sox2* locus in WT and DKO cells during differentiation. Note that Sox2 super-enhancer activity is lost at Day 1.5.

**(D)** Genome browser tracks showing change of FIRE at the *Sox2* locus in WT and DKO cells during differentiation. Note that FIRE at Sox2 super-enhancer was lost after Day 1.5.