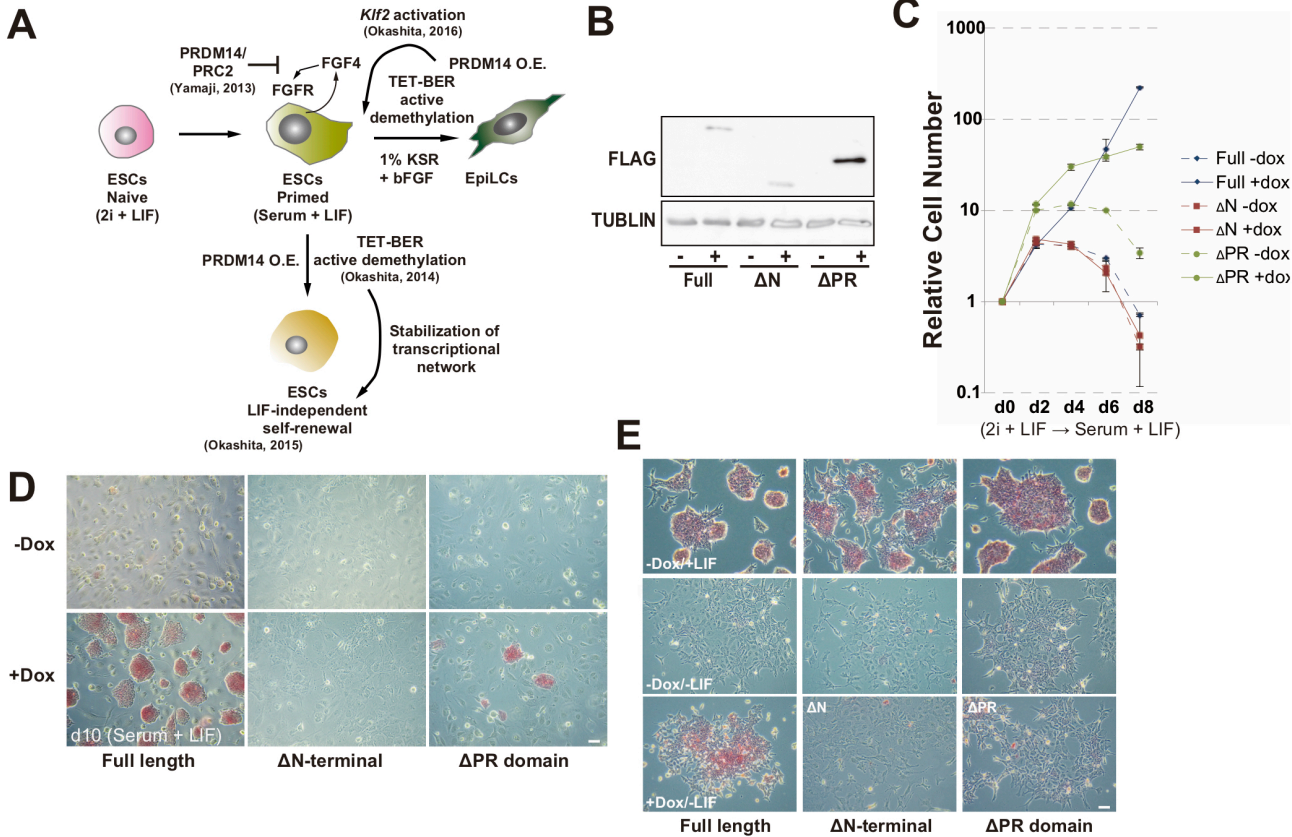


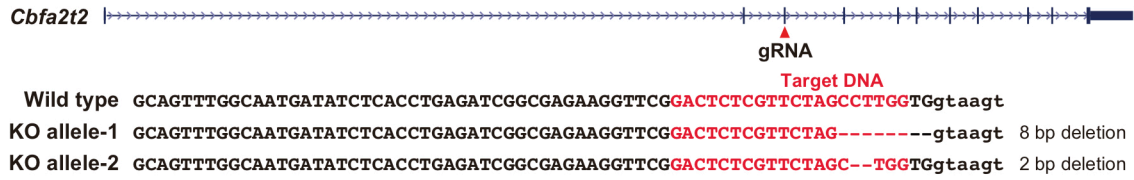
Supplementary Figure 1



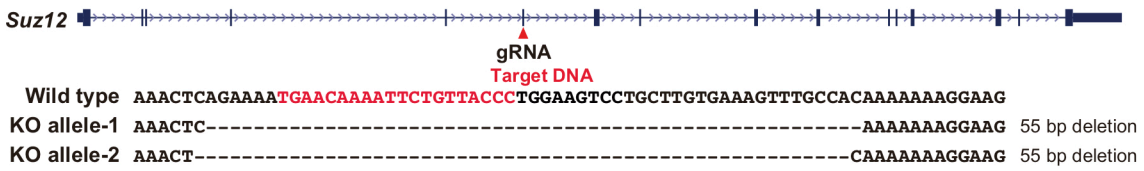
Supplementary Figure 1. (A) The scheme of the PRDM14 function in the maintenance and induction of pluripotency. (B) The establishment of *Prdm14*-inducible ESCs lacking endogenous *Prdm14*. (C) The proliferation rate of *Prdm14*-deficient ESCs with or without exogenous *Prdm14* in serum plus LIF condition. Error bars indicate \pm standard errors of the mean (SEM) of biological triplicates. (D) Alkaline phosphatase staining of *Prdm14*-deficient ESCs with or without exogenous *Prdm14* ten days after the transfer to serum plus LIF condition. (E) Alkaline phosphatase staining of ESCs with or without exogenous *Prdm14* expression in serum plus LIF or serum minus LIF. Scale bar : 50 μ m

Supplementary Figure 2

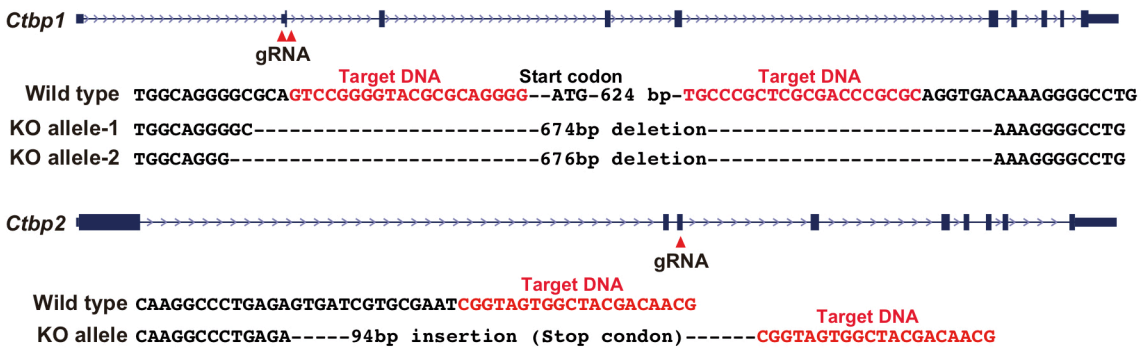
A



B



C



Supplementary Figure 2. The deletion sequence of *Cbfa2t2*, *Suz12* and *Ctbp1/2* locus by CRISPR/Cas9 system.

Table S1. Oligonucleotide lists for guide RNAs, qRT-PCR, Hpa II -qPCR and ChIP-qPC Guide RNA

Gene	Strand	Sequence(5'-3')
<i>Ctbp1</i> upstream	Forward	CACCGTCCGGGGTACGCGCAGGGG
	Reverse	AAACCCCCTGCGCGTACCCCGGAC
<i>Ctbp1</i> downstream	Forward	CACCGTGCCCGCTCGCGACCCGCGC
	Reverse	AAACGCGCGGGTTCGCGAGCGGGCAC
<i>Ctbp2</i>	Forward	CACCGATCCGCCCCAGCTGATGAA
	Reverse	AAACTTCATCAGCTGGGGGCGGATC
<i>Cbfa2t2</i>	Forward	CACCGACTCTCGTTCTAGCCTTGG
	Reverse	AAACCCAAGGCTAGAACGAGAGTC
<i>Suz12</i>	Forward	CACCGTGAACAAAATTCTGTTACCC
	Reverse	AAACGGGTAACAGAATTTTGTTCAC

ChIP-qPCR

Gene	Strand	Sequence(5'-3')
<i>Dnmt3b</i> (-7.5 kb)	Forward	GGGGGAATTACTTTGCCGGAG
	Reverse	TGCAATTCTCTATGGGGTTCG
<i>Dnmt3b</i> (-6.2 kb)	Forward	TCTTACCTCGGCTGGGAGAA
	Reverse	ACGAAGCTGAGAAGTTAGACCT
<i>Zfp281</i>	Forward	CATAGCCTGATGGAACCATTG
	Reverse	ATGTACGTTCTGCCCGTGAG
<i>Id1</i>	Forward	TGCAGATGGACCTGCTAAGTG
	Reverse	TCTCACACACAAACCCCTGTC
<i>Tcl1</i>	Forward	GCCCTGAGTGCAAACCTTACAG
	Reverse	CTATGTGGTGTGGGAAAGC
<i>Dppa3</i>	Forward	CCTCGTGTGAGAATTTGCATC
	Reverse	GCCACGGCTATTCTATTCAAGT
<i>Tfap2c</i>	Forward	TCTAAAAAGCCCCTTGTGGAG
	Reverse	GACAGAGCCTCCAGAGAAAG

qRT-PCR

Gene	Strand	Sequence(5'-3')
<i>Prdm14</i> CDS	Forward	TGTGGTACGGAAATGGCTATG
	Reverse	AAACACCTTTCCACAGCGTTC
<i>Prdm14</i> 3'UTR	Forward	GGAATCCATTTCAGACCAGGAG
	Reverse	GCACATAGTCGCTGGCTACAG
<i>Dnmt3b</i>	Forward	CTCGCAAGGTGTGGGCTTTTGTAA
	Reverse	CTGGGCATCTGTCATCTTTCACC
<i>Dnmt3l</i>	Forward	CCAGGGCAGATTTCTTCTAAGGTC
	Reverse	TGAGCTGCACAGAGGCATCC
<i>Gja1</i>	Forward	GTGCAAGTGTGTAAGCGTGTG
	Reverse	CACAAAGATCCATGAGGAAG

<i>Tfap2c</i>	Forward	ACGCGGAAGAGTATGTTGTTG
	Reverse	TTGTATGTTCCGGCTCCAAGAC
<i>Dppa3</i>	Forward	AGGCTCGAAGGAAATGAGTTTG
	Reverse	TCCTAATTCTTCCCGATTTTCG
<i>Sox15</i>	Forward	TCCCCTTACCTATCCCCAGAC
	Reverse	AGTGTGCATTCTGGTTCCTTG
<i>Mok</i>	Forward	GGAGAAGACACCCATTATCAGAGA
	Reverse	GATATTCTCCGGCTTCACGTC
<i>Rbbp7</i>	Forward	GGGACCTGCGTAATCTGAAACT
	Reverse	GGCGATCAGTACCACTTGAGG
<i>Lefty2</i>	Forward	CAAAACACCCGGGACTCTTAGG
	Reverse	TAAATGACATGGGCAAAGCTG
<i>Meis2</i>	Forward	AAGGCGCTTGCTCCTATCTC
	Reverse	TGGTTGTCAAAACACCATTCC
<i>Zic2</i>	Forward	AACTTCCCTAGCCCACTTTCC
	Reverse	TCCGGGAGTTTACAAATGGAC
<i>Zic5</i>	Forward	CTGAAGTCATGCGGACGATAC
	Reverse	CTAATTAGACCCGGTGGCAAG
<i>Uhrf1</i>	Forward	GCCACTTCTTCACTCCTCACC
	Reverse	CACATCTCAGCCTTCCATGAC
<i>Rhox6</i>	Forward	TTTCCAAGAGACTCGTACCC
	Reverse	GTTTCGAGAACATCAGCACTC
<i>Nanos3</i>	Forward	AATCCTCTGCAGCTCCTGAAC
	Reverse	CACACATAATCCCGCAAATG
<i>Chd9</i>	Forward	TAGATTGATTGGGGGAAGGTG
	Reverse	AAGTGGGACTGCATTGACTTG
<i>Uhrf1</i>	Forward	GCCACTTCTTCACTCCTCACC
	Reverse	CACATCTCAGCCTTCCATGAC
<i>Id1</i>	Forward	CAACAGAGCCTCACCTCTC
	Reverse	AGAAATCCGAGAAGCACGAA
<i>Pou5f1</i>	Forward	CTCTCCCATGCATTCAAAGCTG
	Reverse	CCCCTGTTGTGCTTTTAATCC
<i>Sox2</i>	Forward	CTTGCTGGGTTTTGATTCTGC
	Reverse	AAGACCACGAAAACGGTCTTG
<i>Klf2</i>	Forward	CCCAGGAAAGAAGACAGGAG
	Reverse	AGGCATTTCTCACAAGGCATC
<i>Tcl1</i>	Forward	GAACTTGCCTTCTTCTCAGC
	Reverse	TCACAGGTCAGGTGGGTACAG
<i>Nanog</i>	Forward	AGCCAGGTTCTTCTTCTTC
	Reverse	AAGATCTGACGCCCTTCTTG
<i>Esrrb</i>	Forward	CGTGTGACAAGGAGACAGGAG
	Reverse	TCCAGCCACAACGTCATTATC
<i>Nr0b1</i>	Forward	GAAAGCGGTCGTAGCTGTAGG

	Reverse	GAAGCCAGTATGGAGCAGAGG
<i>Otx2</i>	Forward	GAGGTGATCCGGTGTTTTAGC
	Reverse	AATCAGTCGCACAATCCACAC
<i>Fgf5</i>	Forward	ATGAGTGCATCTGCTCTGCTC
	Reverse	CGTCTGTGGTTTCTGTTGAGG
<i>Pou3f1</i>	Forward	ATTTATTCGTGGAGCCTCTCG
	Reverse	TATACACAGATGCGGCTCTCG
<i>Chd7</i>	Forward	CGAGGAGAACCTGGACAAGAC
	Reverse	CTTTCAGTGGAAGTCTGCTG