

Supplementary Information for

**Pluripotency Factors Functionally Pre-mark Cell-Type-Restricted
Enhancers in ESCs**

Supplementary Table 1. Deep-Seq Data from Published Sources.

DATA from ESC

GSM722693	H3K4me1-heart
GSM722699	H3K4me1-kidney
GSM722637	H3K4me1-bone-marrow
GSM722632	H3K4me1-cortex
GSM722860	H3K4me1-lung
GSM722991	H3K4me1-spleen
GSM723001	H3K4me1-spleen
GSM851273	H3K27ac-heart
GSM851274	H3K27ac-kidney
GSM851270	H3K27ac-bone-marrow
GSM851272	H3K27ac-cortex
GSM851276	H3K27ac-lung
GSM851279	H3K27ac-spleen
GSM1082340	ES-Oct4-V6.5
GSM1082341	ES-Sox2-V6.5
GSM1082342	ES-Nanog-V6.5
GSM288345	ES_Nanog
GSM288346	ES_Oct4
GSM288347	ES_Sox2
GSM288348	ES_Smad1
GSM288349	ES_E2f1
GSM288350	ES_Tcfcp2l1
GSM288352	ES_Zfx
GSM288353	ES_STAT3
GSM288354	ES_Klf4
GSM288355	ES_Esrrb
GSM288356	ES_c-Myc
GSM288357	ES_n-Myc
GSM307619	ES H3K27me3
GSM845236	ES H3K27ac
GSM281695	ES H3K4me1
GSM288359	ES p300
GSM1014544	ES IgG
GSM1036277	5hmC
GSM1036278	5mC
GSM659799	Tet1
GSM1341311	Tdg

GSM1014154	Dnase
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DATA from Peritoneal macrophage

GSM1183907	PM-GroSeq
GSM1183943	PM-H3K4me2
GSM1183968	PM-Pu.1
GSM1183973	PM-p65
GSM1183979	PM-CEBPa
GSM1183989	PM-H3K27Ac

DATA from mesoderm

GSM1359829	MES_H3K4me1
GSM1359831	MES_H3K27ac

DATA in hematopoiesis

GSM1441285	LT_HSC_H3K4me1
GSM1441286	ST_HSC_H3K4me1
GSM1441287	MPP_H3K4me1
GSM1441288	CMP_H3K4me1
GSM1441289	GMP_H3K4me1
GSM1441295	MF_H3K4me1
GSM1441269	LT_HSC_H3K27Ac
GSM1441270	ST_HSC_H3K27Ac
GSM1441271	MPP_H3K27Ac
GSM1441272	CMP_H3K27Ac
GSM1441273	GMP_H3K27Ac
GSM1441279	MF_H3K27Ac
GSM2062718	LSK_5hmC
GSM2062721	CMP_5hmC
GSM2062724	GMP_5hmC

Supplementary Table 2. gRNA and mutant test primer sets for CRISPR/Cas9 assay, and Primer sets for ChIP-qPCR, RT-qPCR and 4C

gRNA

TLR1 sgRNA	ACAACCTCAGTAAAGGTCAAAAGG
Tnfaip3 sgRNA	TGACCTTTAGATTTAAAGGAAGG
Prdx5 sgRNA	CCAGAAGGCACCCAAGGTCAAGC
Nod2 sgRNA	GAAAGCAAACCTGACCTTCAGGG
Nek1 sgRNA (N4)	ACTAAACCCCCATTGTGCCTGGG GGGGTTTAGTGGGTAACAAAAGG
Ankrd1 sgRNA (N8)	TAGTCACACTGGGCGGGGCAGGG ACATCATTTACCTAGAAAAGAGG

CRISPR/Cas9 Mutant test Primer sets

TLR1-cas9-F	CTGTGTGGAAAGAGACCGCAA
TLR1-cas9-R	GAGAGCATAGTCCTTTCCCATC
Tnfaip3-cas9-F	TTAGCTGCCACCCAAACGG
Tnfaip3-cas9-R	TCGCTCAGAACGATGTAGGG
Prdx5-Cas9-F	ATCCCCACGTAAGCAAGGTG
Prdx5-Cas9-R	TCTTCCAGTGGGAATTCTCTTAGT
Nod2-Cas9-F	CTCCCAAGTAGTCAGTCCCA
Nod2-Cas9-R	GTTACACGAGGGACGCTCAAG
Nek1 (N4) -Cas9-F	GTGGAGTTTCTTTCAGGGCAT
Nek1 (N4) -Cas9-R	AAATGACCTCTGGCCTTCCAC
Ankrd1 (N8) -Cas9-F	CCAACCTGGGCTAGTCACACT
Ankrd1 (N8) -Cas9-R	CTCCGGTTGCCATACATCATT

4C Primer sets

4C IL1a-F	AATGATACGGCGACCACCGAACACTCTTTCCCTACAC
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	GACGCTCTTCCGATCTAGGGTCACAGAACCTAAAGCT T
4C_IL1a-R	CAAGCAGAAGACGGCATAACGAAGGAAAGCAAAAGA GGCTAT
4C_Tnfaip3-F	AATGATACGGCGACCACCGAACACTCTTCCCTACAC GACGCTCTTCCGATCTCTAAATACACTTCTCAAAGCT T
4C_Tnfaip3-R	CAAGCAGAAGACGGCATAACGAGCACAGAGAACAGCA CACCT

ChIP-qPCR and RT-qPCR Primer sets

TLR1e-F	GTGTGGAAAGAGACCGCAAT
TLR1e-R	GGGGGTTTCCTCTGTGAAAT
Tnfaip3e-F	GAAACGCTTGTGAGGGAATG
Tnfaip3e-R	GCTGGAGCTAACCAACAACC
Prdx5e-F	ATCCCCACGTAAGCAAGGTG
Prdx5e-R	TCTTCCAGTGGGAATTCTCTTAGT
Nod2e-F	CTCCCAAGTAGTCAGTCCCA
Nod2e-R	GTTACACGAGGGACGCTCAAG
Nek1e (N4) -F	GTGGAGTTTCTTTCAGGGCAT
Nek1e (N4) -R	AAATGACCTCTGGCCTTCCAC
Ankrd1e (N8) -F	CCAACCTGGGCTAGTCACACT
Ankrd1e (N8) -R	CTCCGGTTGCCATACATCATTT
C/EBP α -m-F	CAAAGCCAAGAAGTCGGTGGACAA
C/EBP α -m-R	TCATTGTGACTGGTCAACTCCAGC
C/EBP β -m-F	GGTTTCGGGACTTGATGCA
C/EBP β -m-R	CAACAACCCCGCAGGAAC
Oct4-m-F	CCAATCAGCTTGGGCTAGAG
Oct4-m-R	CCTGGGAAAGGTGTCCTGTA
Sox1-m-F	CACAACCTCGGAGATCAGCAA
Sox1-m-R	GTCCTTCTTGAGCAGCGTCT
Nanog-m-F	AGGGTCTGCTACTGAGATGCTCTG
Nanog-m-R	CAACCACTGGTTTTTCTGCCACCG
FGF5-m-F	ATCTTCTGCAGCCACCTGAT
FGF5-m-R	GAGGAGGCAGAAGACGAAGA
Nestin-m-F	AGGCTGAGAACTCTCGCTTA
Nestin-m-R	ATTAGGCAAGGGGGAAGAGA
Pax6-m-F	AGGGGGAGAGAACACCAACT
Pax6-m-R	CATTTGGCCCTTCGATTAGA
Esrrb-m-F	ACATTGCCTCTGGCTACCAC
Esrrb-m-R	CGCACACCTTCTTCAGCAT

GAPDH-m-F	TGTGCAGTGCCAGCCTC
GAPDH-m-R	ATGAAGGGGTCGTTGATGGC