

Table S7. Deposited Data

Data	Source	Accession
Hi-C (<i>Rybp</i> ^{+/+} mESC) rep1	This paper	GEO: GSE147919
Hi-C (<i>Rybp</i> ^{+/+} mESC) rep2	This paper	GEO: GSE147919
Hi-C (<i>Rybp</i> ^{-/-} mESC) rep1	This paper	GEO: GSE147919
Hi-C (<i>Rybp</i> ^{-/-} mESC) rep2	This paper	GEO: GSE147919
Hi-C (<i>Rybp</i> ^{-/-} _EV mESC) rep1	This paper	GEO: GSE147919
Hi-C (<i>Rybp</i> ^{-/-} _EV mESC) rep2	This paper	GEO: GSE147919
Hi-C (<i>Rybp</i> ^{-/-} _hIDR-CTCF mESC) rep1	This paper	GEO: GSE147919
Hi-C (<i>Rybp</i> ^{-/-} _hIDR-CTCF mESC) rep2	This paper	GEO: GSE147919
Hi-C (induced CTCF phase separation_vehicle mESC) rep1	This paper	GEO: GSE147919
Hi-C (induced CTCF phase separation_vehicle mESC) rep2	This paper	GEO: GSE147919
Hi-C (induced CTCF phase separation_1,6-hex mESC) rep1	This paper	GEO: GSE147919
Hi-C (induced CTCF phase separation_1,6-hex mESC) rep2	This paper	GEO: GSE147919
Hi-C (<i>Rybp</i> ^{+/+} _EV mESC) rep1	This paper	GEO: GSE147919
Hi-C (<i>Rybp</i> ^{+/+} _EV mESC) rep2	This paper	GEO: GSE147919
Hi-C (<i>Rybp</i> ^{-/-} _Δ172 mESC) rep1	This paper	GEO: GSE147919
Hi-C (<i>Rybp</i> ^{-/-} _Δ172 mESC) rep2	This paper	GEO: GSE147919
CTCF HiChIP (<i>Rybp</i> ^{+/+} mESC) rep1	This paper	GEO: GSE147919
CTCF HiChIP (<i>Rybp</i> ^{+/+} mESC) rep2	This paper	GEO: GSE147919
CTCF HiChIP (<i>Rybp</i> ^{-/-} mESC) rep1	This paper	GEO: GSE147919
CTCF HiChIP (<i>Rybp</i> ^{-/-} mESC) rep2	This paper	GEO: GSE147919
RNA-seq (shEV mESC) rep1	This paper	GEO: GSE147919
RNA-seq (shEV mESC) rep2	This paper	GEO: GSE147919
RNA-seq (sh <i>Rybp</i> mESC) rep1	This paper	GEO: GSE147919
RNA-seq (sh <i>Rybp</i> mESC) rep2	This paper	GEO: GSE147919
RNA-seq (<i>Rybp</i> ^{-/-} _EV mESC) rep1	This paper	GEO: GSE147919
RNA-seq (<i>Rybp</i> ^{-/-} _EV mESC) rep2	This paper	GEO: GSE147919
RNA-seq (<i>Rybp</i> ^{-/-} _hIDR-CTCF mESC) rep1	This paper	GEO: GSE147919
RNA-seq (<i>Rybp</i> ^{-/-} _hIDR-CTCF mESC) rep2	This paper	GEO: GSE147919
RYBP ChIP-seq (mESC)	(Zepeda-Martinez et al., 2020)	GEO: GSM4052120
Input ChIP-seq (mESC)	(Zepeda-Martinez et al., 2020)	GEO: GSM4052103
RING1B ChIP-seq (mESC)	(Jaensch et al., 2021)	GEO: GSM4593063
H3K9me3 ChIP-seq (mESC)	(ENCODE project, 2011)	GEO: GSM1003751
H2AK119ub1 ChIP-seq (mESC)	(Brookes et al., 2012)	GEO: GSM850471
H3K4me3 ChIP-seq (mESC)	(Das et al., 2014)	GEO: GSM1059001
H3K27me3 ChIP-seq (mESC)	(Das et al., 2014)	GEO: GSM1058999
H3K27ac ChIP-seq (mESC)	(Shen et al., 2012)	GEO: GSM851278
RYBP ChIP-seq (mesoderm precursor cells)	(Morey et al., 2015)	GEO: GSE67868
H3K4me3 ChIP-seq (mesoderm precursor cells)	(Morey et al., 2015)	GEO: GSE67868
H3K27me3 ChIP-seq (mesoderm precursor cells)	(Morey et al., 2015)	GEO: GSE67868
RYBP ChIP-seq (epidermal progenitor cells)	(Cohen et al., 2018)	GEO: GSE112460
H3K4me3 ChIP-seq (epidermal progenitor cells)	(Cohen et al., 2018)	GEO: GSE112460
H3K27me3 ChIP-seq (epidermal progenitor cells)	(Cohen et al., 2018)	GEO: GSE112460
CTCF ChIP-seq (mESC)	(Shen et al., 2012)	GEO: GSE29218
Input ChIP-seq (mESC)	(Shen et al., 2012)	GEO: GSE29218
SMC1 ChIP-seq (mESC)	(Kagey et al., 2010)	GEO: GSE22562
SMC3 ChIP-seq (mESC)	(Kagey et al., 2010)	GEO: GSE22562
CTCF PLAC-seq (mESC)	(Juric I et al., 2019)	GEO: GSE119663
CTCF ChIA-PET (mESC)	(Weintraub et al., 2017)	GEO: GSM2645441
CTCF ChIA-PET (NB4)	(Wang et al., 2020)	GEO: GSE137661
CTCF ChIA-PET (PAECs)	(Reyes-Palomares et al., 2020)	GEO: GSE139234
RNAseq rep1 (mESC)	(Bonev et al., 2017)	GEO: GSM2533843
RNAseq rep2 (mESC)	(Bonev et al., 2017)	GEO: GSM2533844
RNAseq rep1 (mNPC)	(Bonev et al., 2017)	GEO: GSM2533845
RNAseq rep2 (mNPC)	(Bonev et al., 2017)	GEO: GSM2533846
Hi-C (mESC)	(Bonev et al., 2017)	GEO: GSM2533818
Hi-C (mNPC)	(Bonev et al., 2017)	GEO: GSM2533822

Hi-C (mESC)	(Nora et al., 2017)	GEO: GSE98671
Hi-C (CTCF-AID) (mESC)	(Nora et al., 2017)	GEO: GSE98671
Hi-C (SCC1-AID) (mESC)	(Rhodes et al., 2020)	ArrayExpress: ERR3252815
Hi-C (SCC1-AID) (mESC)	(Rhodes et al., 2020)	ArrayExpress: ERR3252816
Hi-C (SCC1-AID) (mESC)	(Rhodes et al., 2020)	ArrayExpress: ERR3252817
Hi-C (SCC1-AID) (mESC)	(Rhodes et al., 2020)	ArrayExpress: ERR3252818
Hi-C (untreated) (mESC)	(Rhodes et al., 2020)	ArrayExpress: ERR3252823
Hi-C (untreated) (mESC)	(Rhodes et al., 2020)	ArrayExpress: ERR3252824
Hi-C (untreated) (mESC)	(Rhodes et al., 2020)	ArrayExpress: ERR3252825
Hi-C (untreated) (mESC)	(Rhodes et al., 2020)	ArrayExpress: ERR3252826
Hi-C rep1 (mESC)	(Nora et al., 2020)	GEO: GSE156868
Hi-C rep2 (mESC)	(Nora et al., 2020)	GEO: GSE156868
Hi-C (CTCF-AID) rep1 (mESC)	(Nora et al., 2020)	GEO: GSE156868
Hi-C (CTCF-AID) rep2 (mESC)	(Nora et al., 2020)	GEO: GSE156868
Hi-C AML12 shCtrl	(Huo et al., 2019)	GEO:GSE125037
Hi-C AML12 shSafb	(Huo et al., 2019)	GEO:GSE125037