

Table S1.

Cell lines

Wild type/parental cell lines					
ID	Strain	Genotype	Comments		
WT (<i>Ezh2^{ff}</i>)	B6	<i>Ezh2^{ff}; Rosa26^{CreERT2}</i>	Parental line for <i>Ezh1</i> KO, <i>Ezh2</i> KO and <i>Ezh1/Ezh2</i> dKO		
WT mESC (B6)	B6	WT	Parental line for <i>Suz12</i> KO, <i>Eed</i> KO		
WT mESC (129B6F1)	129B6F1	WT	Parental line for <i>Suz12</i> KO		
E14	129	WT	Used for EZH2 inhibitor experiments		
PRC2 knockout cell line					
ID	Clone ID	Strain	Targeting strategy	Genotype	Comments
<i>Ezh2</i> KO		B6	Cre/LoxP with loxP-sites flanking exons 16-19 of <i>Ezh2</i>	<i>Ezh2^{ΔA}; Rosa26^{CreERT2}</i>	Knockout by 8+ days of OHT-treatment
<i>Ezh1</i> KO	10.18	B6	CRISPR/Cas9n targeting of <i>Ezh1</i> in <i>Ezh2^{ff}; Rosa26^{CreERT2}</i>	<i>Ezh1^{-/-}</i>	1 st allele: 13 bp deletion 2 nd allele: 4 bp insertion
<i>Ezh1/Ezh2</i> dKO	dKO18.1 dKO18.2	B6	Cre/LoxP + CRISPR/Cas9n	<i>Ezh1^{-/-}; Ezh2^{ΔA}</i>	Single cell-derived clones of OHT-treated 10.18
<i>Suz12</i> KO	7.29	B6	CRISPR/Cas9n targeting of <i>Suz12</i> in C57B6 WT	<i>Suz12^{-/-}</i>	1 st allele: 58 bp deletion 2 nd allele: 17 bp deletion
	c1 (TS17)	129B6F1	CRISPR/Cas9n targeting of <i>Suz12</i> in	<i>Suz12^{-/-}</i>	1 st allele: 28 bp deletion 2 nd allele: 43 bp deletion
	c2 (TS22)	129B6F1	TCF2.2	<i>Suz12^{-/-}</i>	1 st allele: 17 bp deletion 2 nd allele: 40 bp deletion
<i>Eed</i> KO	6.37	B6	CRISPR/Cas9n targeting of <i>Eed</i> in C57B6 WT	<i>Eed^{-/-}</i>	1 st allele: 20 bp deletion 2 nd allele: 38 bp deletion

Table S2.

gRNA sequences for CRISPR/Cas9

Genomic target		Guide A	Guide B
<i>Ezh1</i>	Exon 6	GAGCTGATCAATAACTATGA	TTCACCTCGTCACCCATGTA
<i>Suz12</i>	Exon 7	ACGAGTAGGACTTCACCATA	CTGTTTAGAGTAACTCGTCC
<i>Eed</i>	Exon 8	AAGAGAGTGATCCATACCAC	TGTGGAGAATCAACTCAAAG

Table S3.
Antibodies

Target	ID	Type	Epitope	Applications	Manufacturer
PRC2					
Ezh1	N22.7	Mouse mAb	N-terminal	WB	Helin lab
Ezh2	BD43	Mouse mAb	N-terminal	WB	Helin lab
	D2C9	Rabbit mAb	App. aa340-360	ChIP	Cell Signaling
Eed	AA19.30	Mouse mAb		WB	Helin lab
Suz12	D39F6	Rabbit mAb	Around aa260	WB, IP, ChIP	Cell Signaling
Histone modifications					
H3K27me3	C36B11	Rabbit mAb		WB, ChIP	Cell Signaling
H3K27me2	D18C8	Rabbit mAb		WB, ChIP	Cell Signaling
	MABI0321	Mouse mAb		WB	Takara
Pan-H4		Rabbit pAb		WB	Millipore
Tags and controls					
Flag	M2	Mouse mAb	DYKDDDDK	ChIP	Sigma
	SAB1306078	Rabbit pAb		WB	Sigma
β -actin	ab8226	Mouse mAb		WB	Abcam
IgG		Mouse/Rabbit	IgG isolated from pre-immune serum	IP, ChIP	Sigma

Table S4.

Primer sequences for ChIP-qPCR analysis

	Forward primer	Reverse primer
<i>Dclk1</i>	TTCCTCGAAAGACGGCTGCT	TTCCTGGCCGGACCAAATA
<i>Pmp22</i>	AGCCACCATGCTCCTACTCT	GAAGAGCAACTAGCACCG
<i>Col4a1</i>	ACGGGAGCCTGTAATGTTTG	TCAGAGCCTGTGAAGTGTTG
<i>Ctsh</i>	TCCCACGTTGGAAGGTTAAG	TTCTTGACGAATGCAACAGC
<i>Hibadh</i>	CATTCTCTCACAGCCCCCAG	TTGCTGAGTTGCGCATGTCT
<i>Med1</i>	CACACCAGATTCACACCAG	CTGTGCCTGTGCCACTAGAA
<i>Utp6</i>	TCTATGGCCTTACCCACTGC	TGACACGTTTCTGCTTCCAG

Table S5.

Primer sequences for RT-qPCR analysis

	Forward primer	Reverse primer
<i>Pou5f1</i>	CAGCAGATCACTCACATCGCCA	GCCTCATACTCTTCTCGTTGGG
<i>Nanog</i>	GAACGCCTCATCAATGCCTGCA	GAATCAGGGCTGCCTTGAAGAG
<i>Klf4</i>	CTATGCAGGCTGTGGCAAACC	TTGCGGTAGTGCCTGGTCAGTT
<i>Sox2</i>	AACGGCAGCTACAGCATGATGC	CGAGCTGGTCATGGAGTTGTAC
<i>Hoxa10</i>	AGTCCTAGACTCCACGCCAC	GAACTGCCAGGGAGTCCTTC
<i>Rplpo</i>	TTCATTGTGGGAGCAGAC	CAGCAGTTTCTCCAGAGC