Supplementary Table 1

KBM7						Unique DamID events			Unique transcripts			Samples		
						Q1	median	Q3	Q1	median	Q3	Total	Passing cutoffs	Passing cutoffs (%)
restriction_enzyme	fusion_construct	clone_id	phase	condition	damid2_adapter_concentration_nM									
DpnI	Dam_LmnB1	clone_14	G1_S	N/A	64	9368,5	34608	67011	4416,5	7979,5	11275,5	192	141	73,4375
				N/A	128	42878	83476	138439	1925	3014,5	4479,5	48	43	89,58333333
		clone_5.5	G1_S	N/A	64	1301,5	4434	24378,5	5005,5	11190	15504	144	56	38,88888889
	Dam_only	clone_5.8	G1_S	N/A	32	6930,5	14404	34133	4033,5	5311	6796,5	48	38	79,16666667
				N/A	64	7659,5	19294,5	39884,5	1111,5	1749,5	2353	48	37	77,08333333
mESC						Unique DamID events			Unique transcripts			Samples		
						Q1	median	Q3	Q1	median	Q3	Total	Passing cutoffs	Passing cutoffs (%)
restriction_enzyme	fusion_construct	clone_id	phase	condition	damid2_adapter_concentration_nM									
DpnI	Dam_LmnB1	clone_B2	G2_M	serum	64	5519,5	24625	77978	2110,5	4473	7545	144	88	61,11111111
			midS	serum	64	452	4154,5	23030	5778	12823,5	22582,5	48	21	43,75
		clone_E6	G2_M	serum	64	4289	22126	68768	2106	6910,5	10845	144	76	52,77777778
	Dam_Ring1B	clone_18	Unsorted	differentiation_day3	32	6992,5	16255	33054	10904,5	17230	28475,5	184	145	78,80434783
				serum	32	3264	9633,5	17423,5	6501,5	9520,5	12049,5	92	62	67,39130435
	Dam_only	clone_C8	Unsorted	differentiation_day3	32	1835	14395,5	39982	5357,5	9276,5	12856,5	92	62	67,39130435
			midS	2i	64	15011	61792	131903	2506,5	4167	5598	96	71	73,95833333
				serum	64	1948	35304,5	93598	7041	9793,5	13968	96	61	63,54166667

Supplementary Table 2

8 basepair barcoded double-stranded DamID adapters

48 top oligos 5' to 3'

TGATCCGGTAATACGACTCACTATAGGGGTTCAGAGTTCTACAGTCCGACGATCNNNTTGGATCCCA
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TGATCCGGTAATACGACTCACTATAGGGGTTCAGAGTTCTACAGTCCGACGATCNNNCGAGATCACA
bottom 48 oligos 5' to 3'
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/5Phos/TGTGATCTCGNNNGATCGTCGGACTGTAGAACTCTGAACCCCTATAGTGAGTCGTATTACCGGGAGC

6 basepair barcoded DamID adapters used for mESCs Dam-Ring1B cells

96 top oligos 5' to 3'

GGTGATCCGGTAATACGACTCACTATAGGGGTTCAGAGTTCTACAGTCCGACGATCNNNCTTCAAGA
GGTGATCCGGTAATACGACTCACTATAGGGGTTCAGAGTTCTACAGTCCGACGATCNNNAGCCATGA
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GGTGATCCGGTAATACGACTCACTATAGGGGTTCAGAGTTCTACAGTCCGACGATCNNNCTAACCGA
96 bottom oligos 5' to 3'
/5Phos/TCTTGAAGNNNGATCGTCGGACTGTAGAACTCTGAACCCCTATAGTGAGTCGTATTACCGGGAGCTT
/5Phos/TCATGGCTNNNGATCGTCGGACTGTAGAACTCTGAACCCCTATAGTGAGTCGTATTACCGGGAGCTT
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GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNAGTGCAGATTTTTTTTTTTTTTTTTTTTTV
GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNCTCTGTCTTTTTTTTTTTTTTTTTTTTTV

Supplementary Table 3

8 nucleotide barcoded CEL-Seq2 primers

384 oligos

GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNCGTCTAATTTTTTTTTTTTTTTTTTTTTTTV
GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNAGACTCGTTTTTTTTTTTTTTTTTTTTTTTV
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GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNCGCATAACTTTTTTTTTTTTTTTTTTTTTTV
GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNGTGCTAGTTTTTTTTTTTTTTTTTTTTTTV
GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNGGTGACTATTTTTTTTTTTTTTTTTTTTTTV
GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNGGTTAGTGTTTTTTTTTTTTTTTTTTTTTTV
GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNCGAAGCAATTTTTTTTTTTTTTTTTTTTTTV
GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNCCGAGATTTTTTTTTTTTTTTTTTTTTTTV
GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNCTCTGCTATTTTTTTTTTTTTTTTTTTTTV
GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNTAGTTGCGTTTTTTTTTTTTTTTTTTTTTV
GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNAGGCTAACTTTTTTTTTTTTTTTTTTTTTV
GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNACAAACCGTTTTTTTTTTTTTTTTTTTTTV
GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNATCGACGATTTTTTTTTTTTTTTTTTTTTV
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GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNCCTTTGACTTTTTTTTTTTTTTTTTTTTV
GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNTGTGGCTTTTTTTTTTTTTTTTTTTTTV

GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNGCGATATCTTTTTTTTTTTTTTTTTTTTTTTV

GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNACGAACACTTTTTTTTTTTTTTTTTTTTTTTV

GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNTTGATGGCTTTTTTTTTTTTTTTTTTTTTTTV

GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNAACATGGGTTTTTTTTTTTTTTTTTTTTTTTV

GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNCTTAGCCTTTTTTTTTTTTTTTTTTTTTTTV

GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNAAAGCGGATTTTTTTTTTTTTTTTTTTTTTTV

GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNCAATGGTCTTTTTTTTTTTTTTTTTTTTTTTV

GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNAACCGGAATTTTTTTTTTTTTTTTTTTTTTTV

GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNAACTCTGGTTTTTTTTTTTTTTTTTTTTTTTV

GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNTTAGGCAGTTTTTTTTTTTTTTTTTTTTTTTV

GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNCGTCGTTTTTTTTTTTTTTTTTTTTTTTTTV

GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNCCTGCTATTTTTTTTTTTTTTTTTTTTTTTV

GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNCAGAGAAGTTTTTTTTTTTTTTTTTTTTTTTV

GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNGATTGTCCTTTTTTTTTTTTTTTTTTTTTTTV

GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNCACCTCTATTTTTTTTTTTTTTTTTTTTTTTV

GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNAGTTGGACTTTTTTTTTTTTTTTTTTTTTTTV

GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNAGTGCAGATTTTTTTTTTTTTTTTTTTTTTTV

GCCGGTAATACGACTCACTATAGGGAGTTCTACAGTCCGACGATCNNNNNNCTCTGTCTTTTTTTTTTTTTTTTTTTTTTTV

Supplementary Table 4

	Figure	test	test statis	p value	n	df
	FigS1b	Pearson correlation	657,01	0	24168	24166
	FigS2b (left)	Pearson correlation	201,118	0	20276	20274
	FigS2c (left)	Pearson correlation	531,72	0	60028	60026
	FigS2b (right)	Pearson correlation	204,334	0	17132	17130
	FigS2c (right)	Pearson correlation	721,246	0	60028	60026
	FigS2h (top; 64nM)	Pearson correlation	-2,29452	0,02326	141	139
	FigS2h (bottom; 128nM)	Pearson correlation	1,20471	0,23522	43	41
	FigS4b (left)	Pearson correlation	146,18	0	56621	56619
	FigS4b (right)	Pearson correlation	116,207	0	57238	57236
	Fig3c (Dam-LMNB1)	One-sample t-test	-11,5798	1,9E-30	3497	3496
	Fig3c (Dam)	One-sample t-test	11,2099	1,1E-28	3668	3667
	FigS6d	Pearson correlation	8,48884	2,89E-17	4051	4049
	Fig4c (DE up)	One-sample t-test	5,3248	3,4E-07	158	157
	Fig4c (DE down)	One-sample t-test	-6,52035	1,5E-10	577	576
	Fig4c (not DE)	One-sample t-test	-1,43223	0,15213	6056	6055
	Fig4f (left, serum)	Spearman correlation	NA	0.0196254	61	59
	Fig4f (right, day3)	Spearman correlation	NA	4,7E-12	146	144
	FigS7c	Pearson correlation	15,3439	1,3E-52	11221	11219
	FigS7f	Pearson correlation	NA	0	22486	22484