

Supplementary Table S2. RNA-Sequencing of Vector and DNMT3B7 expressing LA1-55n cells

Common Name	Description	Chromosome	LA1-55n-GFP Mapped reads	LA1-55n- DNMT3B7-16 Mapped reads	LA1-55n- DNMT3B7-54 Mapped reads	UP GENES 3B7/GFP average	Bonferroni corrected P- value	CpG island
DNMT3B	DNA (cytosine-5-)-methyltransferase 3 beta [Source:HGNC Symbol;Acc:29	20	1034	52803	20318	33.314	5.602E-314	X
GENPE	centromere protein E, 312kDa [Source:HGNC Symbol;Acc:1856]	4	269	7663	6109	24.650	7.320E-315	
ANKRD12	ankyrin repeat domain 12 [Source:HGNC Symbol;Acc:29135]	18	74	1681	1632	21.693	4.761E-316	X
AKAP9	A kinase (PRKA) anchor protein (yotiao) 9 [Source:HGNC Symbol;Acc:379	7	296	5762	5390	18.234	5.521E-315	
TEX15	testis expressed 15 [Source:HGNC Symbol;Acc:11738]	8	242	4068	4062	16.293	3.432E-315	
CEP290	centrosomal protein 290kDa [Source:HGNC Symbol;Acc:29021]	12	135	2246	1973	15.094	9.798E-316	
ASPM	asp (abnormal spindle) homolog, microcephaly associated (Drosophila) [So	1	716	11207	10234	14.481	1.361E-314	X
EEA1	early endosome antigen 1 [Source:HGNC Symbol;Acc:3185]	12	103	1611	1465	14.440	2.35292E-26	X
FSIP2	fibrous sheath interacting protein 2 [Source:HGNC Symbol;Acc:21675]	2	16	270	201	14.142	3.64571E-38	
ZNF716	zinc finger protein 716 [Source:HGNC Symbol;Acc:32458]	7	25	386	335	13.924	1.93986E-67	
NECAB1	N-terminal EF-hand calcium binding protein 1 [Source:HGNC Symbol;Acc:2	8	16	279	146	12.623	6.78757E-13	X
CCDC88A	coiled-coil domain containing 88A [Source:HGNC Symbol;Acc:25523]	2	1282	13949	17257	11.887	2.202E-314	
LRRIQ1	leucine-rich repeats and IQ motif containing 1 [Source:HGNC Symbol;Acc:2	12	14	181	150	11.398	1.05826E-25	
HMGN5	high-mobility group nucleosome binding domain 5 [Source:HGNC Symbol;A	X	80	791	1070	11.392	3.3747E-128	
GOLGA4	golgin A4 [Source:HGNC Symbol;Acc:4427]	3	308	4078	3143	11.276	2.945E-315	X
KIF20B	kinesin family member 20B [Source:HGNC Symbol;Acc:7212]	10	309	3872	3295	11.191	2.908E-315	X
BRCA2	breast cancer 2, early onset [Source:HGNC Symbol;Acc:1101]	13	134	1561	1514	11.119	3.5123E-274	
CENPF	centromere protein F, 350/400kDa (mitosin) [Source:HGNC Symbol;Acc:18	1	3389	38899	37596	10.935	6.237E-314	X
GOLGB1	golgin B1 [Source:HGNC Symbol;Acc:4429]	3	411	4606	4627	10.897	4.373E-315	X
RB1CC1	RB1-inducible coiled-coil 1 [Source:HGNC Symbol;Acc:15574]	8	375	4075	4091	10.563	3.628E-315	X
GCC2	GRIP and coiled-coil domain containing 2 [Source:HGNC Symbol;Acc:2321	2	78	818	819	10.179	5.5189E-136	X
FAM133A	family with sequence similarity 133, member A [Source:HGNC Symbol;Acc:	X	12	103	131	9.531	3.52268E-12	
ANKRD36B	ankyrin repeat domain 36B [Source:HGNC Symbol;Acc:29333]	2	16	191	122	9.353	5.49742E-17	X
TPR	translocated promoter region (to activated MET oncogene) [Source:HGNC	1	1275	13163	11220	9.228	1.670E-315	X
PCSK5	proprotein convertase subtilisin/kexin type 5 [Source:HGNC Symbol;Acc:87	9	43	650	182	9.043	1.8292E-17	X
PHF3	PHD finger protein 3 [Source:HGNC Symbol;Acc:8921]	6	219	1940	1977	8.680	1.39E-303	X
BOD1L	bioorientation of chromosomes in cell division 1-like [Source:HGNC Symbol;	4	755	6843	6612	8.634	7.776E-315	X
ATRX	alpha thalassemia/mental retardation syndrome X-linked [Source:HGNC Sy	X	1159	9959	10380	8.523	1.344E-314	X
PPIG	peptidylprolyl isomerase G (cyclophilin G) [Source:HGNC Symbol;Acc:1465	2	987	9320	7709	8.317	1.072E-314	X
ZNF92	zinc finger protein 92 [Source:HGNC Symbol;Acc:13168]	7	72	662	552	8.130	6.94259E-91	
LRRCC1	leucine rich repeat and coiled-coil domain containing 1 [Source:HGNC Sym	8	56	486	451	8.096	1.48565E-72	X
TRIP11	thyroid hormone receptor interactor 11 [Source:HGNC Symbol;Acc:12305]	14	161	1493	1202	8.062	1.9818E-199	X
LRRN3	leucine rich repeat neuronal 3 [Source:HGNC Symbol;Acc:17200]	7	736	7132	5218	8.057	6.980E-315	X
MAP9	microtubule-associated protein 9 [Source:HGNC Symbol;Acc:26118]	4	213	1771	1761	8.041	4.6597E-268	X
RIF1	RAP1 interacting factor homolog (yeast) [Source:HGNC Symbol;Acc:23207	2	935	7223	8016	7.931	9.325E-315	X
CHML	choroideremia-like (Rab escort protein 2) [Source:HGNC Symbol;Acc:1941	1	729	5465	6394	7.930	6.611E-315	
ETAA1	Ewing tumor-associated antigen 1 [Source:HGNC Symbol;Acc:24648]	2	175	1557	1310	7.902	8.07E-218	X
C10orf118	chromosome 10 open reading frame 118 [Source:HGNC Symbol;Acc:24345	10	81	669	635	7.795	9.6207E-99	X
KIAA1009	KIAA1009 [Source:HGNC Symbol;Acc:21107]	6	84	750	594	7.702	5.02299E-94	X
C12orf35	chromosome 12 open reading frame 35 [Source:HGNC Symbol;Acc:25559]	12	143	1225	1055	7.696	1.5449E-173	X
HMMR	hyaluronan-mediated motility receptor (RHAMM) [Source:HGNC Symbol;A	5	301	2442	2306	7.636	1.445E-315	X

ZNF804A	zinc finger protein 804A [Source:HGNC Symbol;Acc:21711]	2	661	5541	4807	7.558	5.467E-315	X
ZNF480	zinc finger protein 480 [Source:HGNC Symbol;Acc:23305]	19	78	548	658	7.543	3.9969E-73	X
KTN1	kinctin 1 (kinesin receptor) [Source:HGNC Symbol;Acc:6467]	14	1289	11841	8123	7.421	1.339E-314	X
KIF18A	kinesin family member 18A [Source:HGNC Symbol;Acc:29441]	11	133	1106	933	7.395	4.3281E-149	
ESCO1	establishment of cohesion 1 homolog 1 (S. cerevisiae) [Source:HGNC Sym	18	121	936	910	7.393	8.4063E-135	X
NTRK3	neurotrophic tyrosine kinase, receptor, type 3 [Source:HGNC Symbol;Acc:8	15	17	150	108	7.283	6.78757E-13	X
SMC6	structural maintenance of chromosomes 6 [Source:HGNC Symbol;Acc:204	2	590	5189	3682	7.212	4.388E-315	X
RAD50	RAD50 homolog (S. cerevisiae) [Source:HGNC Symbol;Acc:9816]	5	26	208	180	7.204	1.6777E-25	
ESF1	ESF1, nucleolar pre-rRNA processing protein, homolog (S. cerevisiae) [Sou	20	334	2811	2132	7.114	1.601E-315	X
RP11-313J2.1		10	26	195	180	6.977	1.41635E-24	X
RAB27B	RAB27B, member RAS oncogene family [Source:HGNC Symbol;Acc:9767]	18	58	372	448	6.898	1.70439E-45	
NRG4	neuregulin 4 [Source:HGNC Symbol;Acc:29862]	15	32	231	224	6.889	4.32426E-29	
C14orf106	chromosome 14 open reading frame 106 [Source:HGNC Symbol;Acc:2019	14	369	2964	2303	6.867	1.830E-315	X
ZNF208	zinc finger protein 208 [Source:HGNC Symbol;Acc:12999]	19	96	931	456	6.852	1.60208E-54	
CCDC18	coiled-coil domain containing 18 [Source:HGNC Symbol;Acc:30370]	1	118	938	735	6.823	8.0473E-109	X
REV3L	REV3-like, catalytic subunit of DNA polymerase zeta (yeast) [Source:HGNC	6	371	2596	2621	6.822	1.794E-315	X
SMC3	structural maintenance of chromosomes 3 [Source:HGNC Symbol;Acc:246	10	1626	11389	11157	6.721	1.583E-314	X
CWC22	CWC22 spliceosome-associated protein homolog (S. cerevisiae) [Source:H	2	379	2712	2490	6.639	9.285E-315	
CCDC112	coiled-coil domain containing 112 [Source:HGNC Symbol;Acc:28599]	5	245	1873	1491	6.611	3.3434E-221	X
ARID4A	AT rich interactive domain 4A (RBP1-like) [Source:HGNC Symbol;Acc:9885	14	225	1762	1332	6.610	6.6273E-194	X
CASC5	cancer susceptibility candidate 5 [Source:HGNC Symbol;Acc:24054]	15	620	4435	3975	6.556	4.104E-315	
ZNF644	zinc finger protein 644 [Source:HGNC Symbol;Acc:29222]	1	346	2376	2296	6.542	1.452E-315	X
LIX1	Lix1 homolog (chicken) [Source:HGNC Symbol;Acc:18581]	5	21	102	176	6.531	6.78757E-13	
KIAA2026	KIAA2026 [Source:HGNC Symbol;Acc:23378]	9	114	806	720	6.469	1.762E-109	X
USP51	ubiquitin specific peptidase 51 [Source:HGNC Symbol;Acc:23086]	X	59	419	369	6.451	3.73572E-55	
CCDC152	coiled-coil domain containing 152 [Source:HGNC Symbol;Acc:34438]	5	310	2119	1997	6.427	5.0324E-288	
ROCK1	Rho-associated, coiled-coil containing protein kinase 1 [Source:HGNC Sym	18	414	2918	2562	6.393	2.000E-315	X
ODF2L	outer dense fiber of sperm tails 2-like [Source:HGNC Symbol;Acc:29225]	1	30	196	198	6.372	1.29749E-22	X
C1orf114	chromosome 1 open reading frame 114 [Source:HGNC Symbol;Acc:28051]	1	66	460	406	6.338	6.56938E-58	
CKAP2	cytoskeleton associated protein 2 [Source:HGNC Symbol;Acc:1990]	13	173	972	1264	6.322	6.4378E-114	X
CEBPZ	CCAAT/enhancer binding protein (C/EBP), zeta [Source:HGNC Symbol;Acc	2	1203	7976	7572	6.258	9.942E-315	X
SMC2	structural maintenance of chromosomes 2 [Source:HGNC Symbol;Acc:140	9	118	754	752	6.190	5.02022E-96	X
AC159540.1		2	158	1353	702	6.179	3.43868E-81	
NIPBL	Nipped-B homolog (Drosophila) [Source:HGNC Symbol;Acc:28862]	5	872	5352	5641	6.125	6.207E-315	X
BDP1	B double prime 1, subunit of RNA polymerase III transcription initiation fact	5	699	4337	4478	6.123	4.48E-315	X
USP16	ubiquitin specific peptidase 16 [Source:HGNC Symbol;Acc:12614]	21	480	2983	2957	6.000	2.355E-315	X
SMC4	structural maintenance of chromosomes 4 [Source:HGNC Symbol;Acc:140	3	162	1131	876	5.959	5.7231E-119	X
TSPAN12	tetraspanin 12 [Source:HGNC Symbol;Acc:21641]	7	20	132	114	5.937	6.78757E-13	X
JMJD1C	jumonji domain containing 1C [Source:HGNC Symbol;Acc:12313]	10	468	2947	2754	5.895	3.198E-315	X
TMF1	TATA element modulatory factor 1 [Source:HGNC Symbol;Acc:11870]	3	144	908	844	5.887	2.2272E-115	X
CEP110	centrosomal protein 110kDa [Source:HGNC Symbol;Acc:1858]	9	40	232	252	5.884	7.23091E-25	X
ROCK2	Rho-associated, coiled-coil containing protein kinase 2 [Source:HGNC Sym	2	718	4076	4591	5.877	4.41E-315	X
CCDC82	coiled-coil domain containing 82 [Source:HGNC Symbol;Acc:26282]	11	210	1338	1193	5.824	1.1486E-168	
SLK	STE20-like kinase [Source:HGNC Symbol;Acc:11088]	10	408	2591	2305	5.798	1.653E-315	X
ZBTB41	zinc finger and BTB domain containing 41 [Source:HGNC Symbol;Acc:248	1	60	362	352	5.766	1.81904E-42	

RBBP6	retinoblastoma binding protein 6 [Source:HGNC Symbol;Acc:9889]	16	605	3615	3523	5.718	3.26E-315	X
MANEA	mannosidase, endo-alpha [Source:HGNC Symbol;Acc:21072]	6	117	745	640	5.713	1.43879E-86	X
LCA5	Leber congenital amaurosis 5 [Source:HGNC Symbol;Acc:31923]	6	48	268	294	5.696	1.21064E-28	X
CENPC1	centromere protein C 1 [Source:HGNC Symbol;Acc:1854]	4	134	816	755	5.672	6.5582E-101	X
DST	dystonin [Source:HGNC Symbol;Acc:1090]	6	1243	7689	6784	5.624	9.213E-315	X
ZNF829	zinc finger protein 829 [Source:HGNC Symbol;Acc:34032]	19	94	667	435	5.609	9.05586E-51	X
RBM41	RNA binding motif protein 41 [Source:HGNC Symbol;Acc:25617]	X	78	505	403	5.605	4.66066E-51	
PIBF1	progesterone immunomodulatory binding factor 1 [Source:HGNC Symbol;Acc:25617]	13	336	2205	1703	5.594	6.3526E-224	X
LIG4	ligase IV, DNA, ATP-dependent [Source:HGNC Symbol;Acc:6601]	13	160	1102	760	5.577	2.78332E-93	X
KIF14	kinesin family member 14 [Source:HGNC Symbol;Acc:19181]	1	532	3195	2888	5.528	2.508E-315	X
ZNF569	zinc finger protein 569 [Source:HGNC Symbol;Acc:24737]	19	35	217	183	5.513	3.31137E-21	X
EIF5B	eukaryotic translation initiation factor 5B [Source:HGNC Symbol;Acc:30793]	2	2770	17222	14303	5.487	2.462E-314	X
SGOL2	shugoshin-like 2 (S. pombe) [Source:HGNC Symbol;Acc:30812]	2	20	122	105	5.478	6.78757E-13	X
TMTC3	transmembrane and tetratricopeptide repeat containing 3 [Source:HGNC Symbol;Acc:24737]	12	224	1174	1340	5.467	5.024E-131	X
ZNF267	zinc finger protein 267 [Source:HGNC Symbol;Acc:13060]	16	44	265	232	5.455	3.42306E-28	X
DEK	DEK oncogene [Source:HGNC Symbol;Acc:2768]	6	2965	16687	16544	5.434	2.628E-314	X
PHIP	pleckstrin homology domain interacting protein [Source:HGNC Symbol;Acc:2768]	6	939	5314	5171	5.411	5.945E-315	X
LARP7	La ribonucleoprotein domain family, member 7 [Source:HGNC Symbol;Acc:2768]	4	419	2756	1964	5.404	1.6529E-243	X
SLITRK6	SLIT and NTRK-like family, member 6 [Source:HGNC Symbol;Acc:23503]	13	315	1542	1884	5.309	1.3964E-163	
SACS	spastic ataxia of Charlevoix-Saguenay (sacsin) [Source:HGNC Symbol;Acc:23503]	13	735	3965	4070	5.307	4.012E-315	X
RP11-325P15.2		1	73	417	382	5.294	1.97724E-47	
ZNF845	zinc finger protein 845 [Source:HGNC Symbol;Acc:25112]	19	41	180	257	5.228	5.81829E-14	X
CHD1	chromodomain helicase DNA binding protein 1 [Source:HGNC Symbol;Acc:25112]	5	341	1700	1950	5.214	1.3052E-183	
COPS2	COP9 constitutive photomorphogenic homolog subunit 2 (Arabidopsis) [Source:HGNC Symbol;Acc:25112]	15	497	2594	2631	5.101	2.6899E-292	X
POLK	polymerase (DNA directed) kappa [Source:HGNC Symbol;Acc:9183]	5	216	1207	1062	5.074	3.7552E-135	X
CHD9	chromodomain helicase DNA binding protein 9 [Source:HGNC Symbol;Acc:9183]	16	678	3776	3320	5.055	3.331E-315	X
OSBPL8	oxysterol binding protein-like 8 [Source:HGNC Symbol;Acc:16396]	12	966	5085	4966	5.043	5.685E-315	X
ZNF624	zinc finger protein 624 [Source:HGNC Symbol;Acc:29254]	17	26	135	135	5.037	6.78757E-13	X
ATAD5	ATPase family, AAA domain containing 5 [Source:HGNC Symbol;Acc:25752]	17	547	2827	2844	5.029	1.262E-315	X
HOXA13	homeobox A13 [Source:HGNC Symbol;Acc:5102]	7	39	189	213	5.019	1.30661E-16	X
AC073995.2	Ankyrin repeat domain-containing protein 36C [Source:UniProtKB/Swiss-Prot]	2	267	1504	1270	5.012	2.4539E-158	X

Common Name	Description	Chromosome	LA1-ssn-GFP-6 Mapped reads	LA1-ssn-3B7- 16 Mapped reads	LA1-ssn-3B7- 54 Mapped reads	DOWN GENES GFP/3B7 average	Bonferroni corrected P value	CpG island
FOSB	FBJ murine osteosarcoma viral oncogene homolog B [Source:HGNC Symbol;Acc:3238]	19	158	12	2	45.505	8.11053E-33	X
ARC	activity-regulated cytoskeleton-associated protein [Source:HGNC Symbol;Acc:3238]	8	357	24	14	20.543	2.72128E-80	X
EGR1	early growth response 1 [Source:HGNC Symbol;Acc:3238]	5	11396	696	606	18.128	1.4922E-314	X
FOS	FBJ murine osteosarcoma viral oncogene homolog [Source:HGNC Symbol;Acc:3238]	14	2769	433	182	10.890	1.9649E-315	X
MIR3187	microRNA 3187 [Source:HGNC Symbol;Acc:38319]	19	132	15	22	7.754	2.75172E-15	X
NOTCH3	notch 3 [Source:HGNC Symbol;Acc:7883]	19	199	31	25	7.391	1.50648E-29	X
IER2	immediate early response 2 [Source:HGNC Symbol;Acc:28871]	19	2231	474	258	6.780	8.6538E-310	X
HSD11B2	hydroxysteroid (11-beta) dehydrogenase 2 [Source:HGNC Symbol;Acc:520]	16	134	29	16	6.601	1.61157E-15	X
JUNB	jun B proto-oncogene [Source:HGNC Symbol;Acc:6205]	19	767	200	90	6.240	4.84349E-87	X
RNF208	ring finger protein 208 [Source:HGNC Symbol;Acc:25420]	9	124	44	13	6.171	1.14576E-07	X
CACNA1H	calcium channel, voltage-dependent, T type, alpha 1H subunit [Source:HGNC Symbol;Acc:25420]	16	686	121	116	5.987	3.84968E-91	X
NGEF	neuronal guanine nucleotide exchange factor [Source:HGNC Symbol;Acc:7809]	2	114	23	17	5.978	1.81045E-13	X
MRC2	mannose receptor, C type 2 [Source:HGNC Symbol;Acc:16875]	17	201	41	30	5.945	6.96505E-26	X
SEMA6C	sema domain, transmembrane domain (TM), and cytoplasmic domain, (semaphorin 6C) [Source:HGNC Symbol;Acc:16875]	1	251	60	34	5.880	5.75471E-29	X
C2CD4C	C2 calcium-dependent domain containing 4C [Source:HGNC Symbol;Acc:28583]	19	135	44	16	5.776	9.02642E-10	X
RSPO2	R-spondin 2 homolog (Xenopus laevis) [Source:HGNC Symbol;Acc:28583]	8	210	62	27	5.632	4.14202E-19	X
GLT1D1	glycosyltransferase 1 domain containing 1 [Source:HGNC Symbol;Acc:2644]	12	161	45	22	5.515	6.74548E-15	X
SEMA6B	sema domain, transmembrane domain (TM), and cytoplasmic domain, (semaphorin 6B) [Source:HGNC Symbol;Acc:2644]	19	106	33	14	5.436	1.09389E-07	
NGFR	nerve growth factor receptor [Source:HGNC Symbol;Acc:7809]	17	207	40	39	5.422	1.72812E-23	X
ZBTB7B	zinc finger and BTB domain containing 7B [Source:HGNC Symbol;Acc:186]	1	158	45	22	5.412	2.85908E-14	
NCAN	neurocan [Source:HGNC Symbol;Acc:2465]	19	1116	233	199	5.355	1.7713E-144	
SLC4A2	solute carrier family 4, anion exchanger, member 2 (erythrocyte membrane protein band 3) [Source:HGNC Symbol;Acc:2465]	7	208	67	28	5.307	7.0219E-17	X
MAGEC2	melanoma antigen family C, 2 [Source:HGNC Symbol;Acc:13574]	X	369	133	49	5.175	7.35418E-28	
SILV	silver homolog (mouse) [Source:HGNC Symbol;Acc:10880]	12	547	110	109	5.170	5.95673E-64	X
PHYHIP	phytanoyl-CoA 2-hydroxylase interacting protein [Source:HGNC Symbol;Acc:3575]	8	121	30	20	5.152	4.39762E-12	
FADS2	fatty acid desaturase 2 [Source:HGNC Symbol;Acc:3575]	11	855	225	136	5.138	1.40074E-96	X
COL4A2	collagen, type IV, alpha 2 [Source:HGNC Symbol;Acc:2203]	13	342	94	54	5.071	1.52117E-35	X