

**The long non-coding RNA landscape in juvenile myelomonocytic leukemia**

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**Table S1. Patient characteristics: None of the patients carried a germline PTPN11 or CBL mutation and patients were treated with standard of care therapy.**

abbreviations: Del = chromosomal deletion; TRM = transfusion related mortality, HSCT = haematopoietic stem cell transplantation; GF = graft failure; GVH = graft versus host

Identification	LIN28B	Sex	Sample source (BM = bone marrow; PB = peripheral blood)	Age at diagnosis (months)	HbF %	Age-adjusted HbF	Karyotype	Mutation	BM blast %	Platelets (x 10 <sup>9</sup> /L)	Cause of death	Survival from diagnosis (OS)		Survival from HSCT (EFS)		IncRNA score	IncRNA score category (1 = favorable; 2 = unfavorable)
												(years)	Events after HSCT	(years)			
B009	High	Male	BM	19	50.0	Elevated	46,XY / 61,XY,+X,+1+3,+5,+7,+11,+13,+ 13,+16,+20,+22,+5mar	PTPN11	9.5	8	Relapse	0.62	Relapse	0.11	2.89	2	
B011	Low	Male	BM	22	0.9	Normal	45,XX,-7	KRAS	8.0	72		10.48	No event	10.21	-11.84	1	
B013	Low	Female	BM	15	2.2	Elevated	46,XX	KRAS	6.0	70		5.58	No event	5.19	-9.77	1	
B014	High	Male	BM	49	36.1	Elevated	46,XY	PTPN11	3.0	29		5.74	No event	5.43	-2.28	1	
B034	High	Male	BM	36	47.0	Elevated	46,XY	KRAS	7.2	21		2.28	No event	2.09	0.32	2	
B041	High	Female	BM	17	24.0	Elevated	46,XX	PTPN11	6.0	31		1.47	Relapse (secondary GF)	0.23	-7.24	1	
CZ022	High	Male	No data	43	17.1	Elevated	46,XY	NF1	8.0	179	TRM	1.28	TRM	0.20	9.39	2	
CZ067	Low	Male	No data	7	No data	No data	46,XY	Quad neg	2.4	131	TRM	0.46	TRM	0.13	3.93	2	
CZ076	High	Male	No data	25	37.0	Elevated	46,XY	KRAS	0.0	25		4.12	No event	3.98	-1.57	1	
D003	Low	Female	No data	3	48.6	Elevated	46,XX	NF1	9.0	160	Relapse	4.41	Relapse	0.76	8.95	2	
D102	High	Male	No data	45	59.5	Elevated	46,XY	NF1	13.0	103	Progress, no SCT	0.79	no SCT	no SCT	9.28	2	
D123	High	Male	No data	26	21.8	Elevated	46,XY	PTPN11	5.0	21	Relapse	0.90	Relapse	0.37	11.99	2	
D127	Low	Male	No data	65	5.9	Elevated	46,XY	NF1	0.0	139	Relapse	1.82	Relapse	0.49	4.10	2	
D311	High	Male	No data	35	51.9	Elevated	46,XY	Quad neg	5.0	146	Relapse (TRM after 2nd SCT)	2.27	Relapse	1.44	12.51	2	
D360	High	Male	No data	64	No data	No data	45,XY,-21	KRAS	1.0	21	Progress, no SCT	0.51	no SCT	no SCT	12.15	2	
D368	Low	Male	No data	8	11.1	Elevated	46,XY	PTPN11	5.0	106	TRM	5.36	TRM	5.12	8.04	2	
D397	High	Male	No data	73	70.0	Elevated	46,XY	NRAS	6.0	40	GF (TRM after 2nd SCT)	0.69	TRM	0.11	17.49	2	
F1	High	Female	BM	54	5.6	Elevated	47,XX,+21[10] / 46,XX[23]	PTPN11	7.0	98	Articular GVH, death due to septic shock after surgery	4.84	TRM	4.22	1.26	2	
F10	Low	Female	PB	159	0.2	Normal	45,XX,-7	NRAS	18.0	180		2.03	No event	1.89	-0.86	1	
F11	Low	Male	BM	50	No data	No data	46,XY	NRAS	17.0	63		4.20	No event	3.81	-15.31	1	
F12	Low	Female	PB	8	0.3	Normal	45,XX,-7[30] / 46,XX[1]	KRAS	0.0	58		5.38	No event	4.77	-3.72	1	
F13	High	Male	PB	40	69.5	Elevated	46,XY	NRAS	19.0	34	SCT complication	0.60	TRM	0.24	15.31	2	
F14	Low	Male	BM	36	No data	Normal	46,XY	KRAS	3.0	63		4.40	No event	3.19	-1.82	1	
F15	High	Female	PB	34	31.8	Elevated	Del(6)	NRAS	37.0	72		3.13	No event	2.91	-1.62	1	
F16	High	Female	BM	54	58.5	Elevated	Del(7)	NRAS	15.0	197	Disease progression and respiratory failure	1.57	Relapse	0.18	-1.46	1	
F17	Low	Male	BM	62	0.4	Elevated	46,XY	NRAS	3.0	84		6.50	no SCT	no SCT	-3.37	1	
F25	Low	Male	BM	1	31.9	Normal	46,XY	PTPN11	6.0	80		2.93	No event	2.16	-4.15	1	
F26	High	Male	BM	3	36.0	Elevated	46,XY	PTPN11	0.0	33		0.79	No event	0.36	-5.77	1	
F27	High	Male	PB	23	26.9	Elevated	46,XY	PTPN11	4.5	50		1.68	No event	1.29	-4.16	1	
F3	High	Male	BM	26	37.4	Elevated	46,XY[15] / 45,X,-Y[12]	PTPN11	11.0	46	Toxicity (severe veino occlusive disease after HSCT)	0.38	TRM	0.09	12.22	2	
F33	High	Male	BM	34	40.8	Elevated	46,XY	PTPN11	3.5	26		3.41	No event	3.17	-9.65	1	
F34	Low	Male	BM	19	No data	No data	Del(13)	NRAS	3.0	217		3.12	No event	2.37	-9.61	1	
F35	High	Female	PB	9	24.9	Elevated	46,XX	PTPN11	5.0	75		5.45	No event	5.02	-10.05	1	
F4	High	Male	BM	26	No data	No data	46,XY,del9(q21q32)[10] / 48,idem,+21,+22 [1] / 48,XY,+21,+22 [3] / 46,XY[16]	PTPN11	32.0	52	Disease progression (acutisation, relapse after second HSCT)	2.06	Relapse	0.62	2.01	2	
F5	Low	Female	BM	8	7.4	Elevated	Normal	PTPN11	7.0	79		4.33	No event	3.79	5.21	2	
F9	High	Male	BM	23	37.0	Elevated	Normal	PTPN11	3.5	25		1.69	No event	1.32	-0.58	2	
NL043	High	Male	No data	39	35.0	Elevated	Normal	PTPN11	2.0	66		15.10	Relapse	0.82	-4.28	1	
NL072	High	Male	No data	10	1.2	Normal	45,XY,-7	PTPN11	12.0	23	Relapse	1.27	Relapse	0.13	1.86	2	
NL079	Low	Male	BM	21	4.4	Elevated	Normal	KRAS	1.4	121	GF (GF 2nd SCT)	0.82	TRM	0.11	15.36	2	
NL094	High	Female	BM	13	No data	No data	Normal	PTPN11	9.0	No data	TRM	4.30	TRM	4.10	-1.38	1	
NL105	Low	Male	PB	2	43.8	Normal	Normal	KRAS	2.0	31		6.32	No event	6.01	-0.90	1	
NL109	Low	Female	BM	17	4.3	Elevated	45,XX,-7[10]	Quad neg	18.0	204		7.21	No event	6.51	-2.14	1	
NL118	Low	Male	BM	6	1.0	Normal	45,XY,-7[10]	KRAS	1.0	30	Progress, no SCT	0.06	no SCT	no SCT	11.93	2	
NL162	Low	Male	BM	2	67.4	Elevated	45,XY,-7[10]	KRAS	4.8	No data		1.27	no SCT	no SCT	3.00	2	

**Table S2. Differential expressed lncRNAs between JMML and Healthy donors**

	Probe_Name	Gene_Name	Transcript	Mean log expression in JMML	Sample Variance in JMML	Mean log expression in Healthy donors	Sample variance in Healthy donors	Fold change	adjusted P value
1	CUST_13579_PI427704219	lnc-THADA-4	lnc-THADA-4:1	8.05	2.75	4.93	2.00	8.66	2.4272E-05
2	CUST_1933_PI427704219	lnc-SYF2-2	lnc-SYF2-2:1	5.76	3.40	3.08	2.14	6.43	2.0003E-04
3	CUST_7375_PI427704219	lnc-THADA-4	lnc-THADA-4:3	7.48	2.05	5.10	0.91	5.21	1.8413E-05
4	CUST_22045_PI427704219	lnc-BASP1-3	lnc-BASP1-3:6	6.29	2.12	4.21	0.21	4.25	8.3696E-07
5	CUST_19945_PI427704219	lnc-ACSL1-1	lnc-ACSL1-1:4	6.26	2.34	4.18	0.25	4.23	2.9294E-06
6	CUST_17851_PI427704219	lnc-CROCC-1	lnc-CROCC-1:4	8.40	1.24	6.42	0.25	3.93	0.0000E+00
7	CUST_9462_PI427704219	lnc-ERICH1-5	lnc-ERICH1-5:1	9.43	1.29	7.53	0.29	3.74	2.9294E-06
8	CUST_2816_PI427704219	lnc-MARCH7-1	lnc-MARCH7-1:1	10.20	1.10	8.48	0.29	3.29	6.6957E-06
9	CUST_9937_PI427704219	lnc-EDAR-2	lnc-EDAR-2:1	5.55	1.42	3.96	0.61	3.02	2.0296E-04
10	CUST_8873_PI427704219	lnc-C1orf185-2	lnc-C1orf185-2:1	7.03	0.63	5.73	0.29	2.46	5.7750E-05
11	CUST_11806_PI427704219	lnc-ACSL1-1	lnc-ACSL1-1:3	5.43	0.84	4.21	0.16	2.33	3.3060E-05
12	CUST_14702_PI427704219	lnc-KB-1507C5.2.1-3	lnc-KB-1507C5.2.1-3:5	6.52	0.51	5.39	0.14	2.19	2.5527E-05
13	CUST_18666_PI427704219	lnc-GTF2F2-2	lnc-GTF2F2-2:14	8.39	0.32	7.27	0.47	2.17	8.0348E-04
14	CUST_14760_PI427704219	lnc-MAP7D2-1	lnc-MAP7D2-1:1	6.41	0.34	5.36	0.10	2.07	1.2973E-05
15	CUST_10169_PI427704219	lnc-CCNI-1	lnc-CCNI-1:1	4.66	0.15	3.91	0.12	1.69	2.9126E-04
16	CUST_21560_PI427704219	lnc-ZNF248-1	lnc-ZNF248-1:3	3.93	0.15	4.52	0.11	0.71	2.1271E-03
17	CUST_1275_PI427704219	lnc-ZNF507-3	lnc-ZNF507-3:1	3.50	0.23	4.12	0.11	0.69	1.5731E-03
18	CUST_5485_PI427704219	lnc-FGF10-1	lnc-FGF10-1:1	4.01	0.21	4.66	0.15	0.68	2.6846E-03
19	CUST_5751_PI427704219	lnc-SPATC1-1	lnc-SPATC1-1:1	4.24	0.16	4.89	0.14	0.68	1.8459E-03
20	A_33_P3316088	lnc-BTF3L4-2	lnc-BTF3L4-2:1	4.46	0.17	5.11	0.07	0.68	3.6324E-04
21	CUST_17568_PI427704219	lnc-DLGAP2-2	lnc-DLGAP2-2:1	4.35	0.16	5.01	0.07	0.67	3.1888E-04
22	CUST_12736_PI427704219	lnc-TSN-1	lnc-TSN-1:3	5.18	0.20	5.84	0.31	0.67	1.0580E-02
23	CUST_7609_PI427704219	lnc-CD276-2	lnc-CD276-2:7	4.62	0.18	5.32	0.14	0.65	9.4032E-04
24	CUST_1941_PI427704219	lnc-LRRC4C-1	lnc-LRRC4C-1:2	3.60	0.31	4.32	0.32	0.65	7.5205E-03
25	A_33_P3282364	lnc-RBP5-1	lnc-RBP5-1:1	5.10	0.20	5.82	0.50	0.65	1.7627E-02
26	CUST_9925_PI427704219	lnc-DHFR-2	lnc-DHFR-2:6	3.52	0.28	4.25	0.17	0.65	1.5362E-03
27	CUST_15321_PI427704219	lnc-RP11-1277H1.1.1-4	lnc-RP11-1277H1.1.1-4:1	3.53	0.27	4.26	0.18	0.64	1.7618E-03
28	CUST_18358_PI427704219	lnc-CIT-1	lnc-CIT-1:4	5.46	0.24	6.22	0.14	0.63	6.0387E-04
29	CUST_12914_PI427704219	lnc-SCIMP-1	lnc-SCIMP-1:1	3.45	0.30	4.22	0.52	0.63	1.3928E-02
30	CUST_20874_PI427704219	lnc-DCT-1	lnc-DCT-1:1	4.24	0.35	5.01	0.20	0.62	1.7103E-03
31	CUST_21717_PI427704219	lnc-C6orf58-1	lnc-C6orf58-1:1	3.69	0.37	4.47	0.09	0.62	3.1804E-04
32	CUST_3873_PI427704219	lnc-ZEB2-2	lnc-ZEB2-2:1	3.65	0.23	4.43	0.22	0.62	1.4839E-03
33	CUST_758_PI427704219	lnc-ASB15-1	lnc-ASB15-1:1	3.83	0.21	4.61	0.32	0.62	4.0781E-03
34	CUST_10969_PI427704219	lnc-C2CD4A-5	lnc-C2CD4A-5:4	3.98	0.28	4.76	0.10	0.62	2.1552E-04
35	CUST_17186_PI427704219	lnc-STK32C-1	lnc-STK32C-1:2	4.89	0.25	5.67	1.07	0.62	4.9652E-02
36	CUST_17846_PI427704219	lnc-YTHDF1-4	lnc-YTHDF1-4:1	4.99	0.18	5.78	0.32	0.62	3.6395E-03
37	A_33_P3299665	lnc-FTSJD2-1	lnc-FTSJD2-1:1	5.66	0.18	6.45	0.14	0.62	3.5445E-04
38	CUST_603_PI427704219	lnc-HDDC3-1	lnc-HDDC3-1:1	5.19	0.26	5.99	0.86	0.61	3.1541E-02
39	CUST_258_PI427704219	lnc-DHRS7-1	lnc-DHRS7-1:3	4.34	0.33	5.15	0.06	0.61	6.4446E-05
40	CUST_15174_PI427704219	lnc-ARHGAP10-1	lnc-ARHGAP10-1:1	4.60	0.33	5.41	0.21	0.61	1.2345E-03
41	CUST_1688_PI427704219	lnc-FAM19A5-1	lnc-FAM19A5-1:1	3.66	0.28	4.47	0.23	0.61	1.4270E-03
42	CUST_22286_PI427704219	lnc-RTN4IP1-1	lnc-RTN4IP1-1:2	3.72	0.38	4.54	0.50	0.60	9.5234E-03
43	CUST_389_PI427704219	lnc-C13orf44-1	lnc-C13orf44-1:3	3.76	0.29	4.59	0.96	0.60	3.1984E-02
44	CUST_5175_PI427704219	lnc-ANKRD33-1	lnc-ANKRD33-1:1	5.73	0.29	6.57	0.79	0.60	2.1810E-02
45	CUST_4453_PI427704219	lnc-DYNLRB2-3	lnc-DYNLRB2-3:3	3.57	0.29	4.41	0.51	0.60	8.2135E-03
46	CUST_5224_PI427704219	lnc-C2Oorf78-5	lnc-C2Oorf78-5:1	5.85	0.27	6.69	0.17	0.59	4.3313E-04
47	CUST_1566_PI427704219	lnc-BMP3-1	lnc-BMP3-1:2	4.66	0.27	5.51	0.30	0.59	2.0619E-03
48	CUST_13637_PI427704219	lnc-ZNF74-2	lnc-ZNF74-2:1	4.33	0.29	5.17	0.87	0.59	2.4861E-02
49	CUST_1161_PI427704219	lnc-PDCD6IP-2	lnc-PDCD6IP-2:6	3.18	0.38	4.03	0.14	0.59	3.1428E-04
50	CUST_12106_PI427704219	lnc-EXD2-1	lnc-EXD2-1:1	5.76	0.21	6.62	0.48	0.59	6.0429E-03
51	CUST_2383_PI427704219	lnc-COMMD1-1	lnc-COMMD1-1:1	4.24	0.26	5.09	1.03	0.59	3.2683E-02
52	CUST_3987_PI427704219	lnc-DHX37-10	lnc-DHX37-10:20	4.12	0.27	4.97	0.59	0.59	9.9925E-03
53	CUST_3390_PI427704219	lnc-RP11-82110.1.1-11	lnc-RP11-82110.1.1-11:2	4.02	0.28	4.87	0.58	0.59	9.4861E-03
54	CUST_1206_PI427704219	lnc-SYCP2-1	lnc-SYCP2-1:1	4.03	0.25	4.89	1.05	0.59	3.2612E-02
55	CUST_229_PI427704219	lnc-FOXA2-6	lnc-FOXA2-6:1	5.15	0.31	6.02	0.36	0.58	2.9047E-03
56	A_33_P3250555	lnc-LINC00470-1	lnc-LINC00470-1:11	4.74	0.33	5.61	0.37	0.58	3.0721E-03
57	CUST_17803_PI427704219	lnc-HSP90AA1-9	lnc-HSP90AA1-9:9	4.95	0.30	5.83	0.65	0.58	1.1078E-02
58	CUST_7140_PI427704219	lnc-FAM153B-1	lnc-FAM153B-1:1	3.99	0.47	4.87	0.21	0.58	8.1311E-04
59	CUST_14798_PI427704219	lnc-POLR2B-1	lnc-POLR2B-1:6	3.31	0.27	4.20	0.74	0.58	1.3815E-02
60	CUST_11316_PI427704219	lnc-FAM131B-1	lnc-FAM131B-1:2	4.85	0.37	5.73	0.44	0.57	4.0965E-03
61	CUST_17192_PI427704219	lnc-SLITRK6-12	lnc-SLITRK6-12:2	4.94	0.36	5.83	0.97	0.57	2.4585E-02
62	CUST_15799_PI427704219	lnc-CPEB2-2	lnc-CPEB2-2:2	3.56	0.39	4.45	0.17	0.57	3.7328E-04
63	CUST_11315_PI427704219	lnc-RP11-1070N10.3.1-1	lnc-RP11-1070N10.3.1-1:6	5.11	0.32	6.01	0.47	0.57	4.6087E-03
64	CUST_3132_PI427704219	lnc-ANKRD10-4	lnc-ANKRD10-4:1	5.22	0.42	6.11	0.27	0.57	1.2165E-03
65	CUST_17787_PI427704219	lnc-C6orf99-1	lnc-C6orf99-1:1	4.12	0.21	5.01	1.04	0.57	2.5779E-02
66	CUST_15240_PI427704219	lnc-FAM153A-1	lnc-FAM153A-1:1	4.04	0.38	4.94	0.20	0.57	4.6702E-04
67	CUST_12246_PI427704219	lnc-CBLB-7	lnc-CBLB-7:1	4.51	0.10	5.41	1.19	0.57	3.2021E-02
68	CUST_10327_PI427704219	lnc-RGS7-1	lnc-RGS7-1:2	3.63	0.28	4.53	1.12	0.57	2.9238E-02
69	CUST_20080_PI427704219	lnc-C14orf177-3	lnc-C14orf177-3:2	4.13	0.39	5.03	0.42	0.57	3.2972E-03
70	CUST_5421_PI427704219	lnc-C1QTNF8-3	lnc-C1QTNF8-3:3	4.97	0.21	5.88	0.76	0.57	1.2555E-02
71	CUST_580_PI427704219	lnc-FAM54A-2	lnc-FAM54A-2:2	3.26	0.27	4.18	0.97	0.56	1.9574E-02
72	CUST_2008_PI427704219	lnc-SDIM1-1	lnc-SDIM1-1:1	4.25	0.31	5.18	1.43	0.56	4.0142E-02
73	CUST_11969_PI427704219	lnc-ABCC4-1	lnc-ABCC4-1:1	3.29	0.37	4.23	1.26	0.56	3.1978E-02
74	CUST_11665_PI427704219	lnc-MYOC-2	lnc-MYOC-2:1	3.63	0.48	4.57	0.25	0.55	6.7417E-04
75	CUST_19653_PI427704219	lnc-FAM150B-1	lnc-FAM150B-1:1	4.94	0.35	5.88	0.10	0.55	3.8082E-05
76	CUST_20244_PI427704219	lnc-HBEGF-1	lnc-HBEGF-1:1	5.26	0.25	6.21	0.46	0.55	2.6431E-03
77	CUST_424_PI427704219	lnc-SYK-5	lnc-SYK-5:2	4.83	0.14	5.79	0.63	0.55	5.3724E-03
78	CUST_2234_PI427704219	lnc-RP11-204N11.1.1-3	lnc-RP11-204N11.1.1-3:10	4.07	0.43	5.04	0.20	0.55	3.0214E-04
79	CUST_11886_PI427704219	lnc-PRDM8-1	lnc-PRDM8-1:2	3.94	0.35	4.91	1.53	0.55	4.0466E-02
80	CUST_22537_PI427704219	lnc-KIAA1328-2	lnc-KIAA1328-2:1	3.87	0.37	4.84	0.85	0.54	1.1861E-02
81	CUST_2451_PI427704219	lnc-GPR65-1	lnc-GPR65-1:9	4.98	0.23	5.95	0.52	0.54	3.1742E-03
82	CUST_11101_PI427704219	lnc-HEY2-1	lnc-HEY2-1:1	4.54	0.45	5.51	1.35	0.54	3.1715E-02
83	CUST_15631_PI427704219	lnc-CRYBA4-1	lnc-CRYBA4-1:9	4.41	0.53	5.39	0.33	0.54	1.1906E-03
84	CUST_22082_PI427704219	lnc-OR4F15-1	lnc-OR4F15-1:1	9.12	0.48	10.10	0.19	0.54	2.4690E-04
85	CUST_8503_PI427704219	lnc-TFAP2A-2	lnc-TFAP2A-2:6	4.37	0.21	5.34	0.52	0.54	2.7800E-03
86	CUST_3649_PI427704219	lnc-C13orf15-1	lnc-C13orf15-1:1	5.06	0.30	6.04	0.04	0.54	2.5109E-06
87	A_33_P3403728	lnc-ANGPT2-1	lnc-ANGPT2-1:2	4.98	0.31	5.96	0.29	0.54	5.3733E-04
88	CUST_8974_PI427704219	lnc-NT5DC1-4	lnc-NT5DC1-4:1	4.33	0.50	5.31	0.52	0.54	3.2558E-03
89	CUST_3456_PI427704219	lnc-LSR-1	lnc-LSR-1:1	3.78	0.33	4.77	1.47	0.53	3.2797E-02
90	CUST_4260_PI427704219	lnc-OVOL1-1	lnc-OVOL1-1:1	4.02	0.24	5.02	1.68	0.53	4.1451E-02
91	CUST_22239_PI427704219	lnc-BOD1-2	lnc-BOD1-2:4	3.53	0.23	4.53	1.03	0.53	1.4985E-02
92	CUST_11524_PI427704219	lnc-SPPL2A.1-1	lnc-SPPL2A.1-1:1	5.74	0.36	6.74	0.18	0.53	1.2973E-04

93	CUST_17981_PI427704219	Inc-HERC1-1	Inc-HERC1-1:7	8.40	0.45	9.40	0.11	0.53	3.7663E-05
94	CUST_9312_PI427704219	Inc-KIAA1147-3	Inc-KIAA1147-3:1	4.00	0.34	5.01	1.43	0.53	2.9775E-02
95	CUST_21732_PI427704219	Inc-TELO2-3	Inc-TELO2-3:2	5.59	0.45	6.59	0.75	0.53	7.1506E-03
96	CUST_10334_PI427704219	Inc-FAM153C-3	Inc-FAM153C-3:1	4.65	0.32	5.67	0.72	0.52	5.5846E-03
97	CUST_10005_PI427704219	Inc-C5orf38-3	Inc-C5orf38-3:3	4.35	0.28	5.37	1.95	0.52	4.8305E-02
98	CUST_7461_PI427704219	Inc-LDLRAP1-1	Inc-LDLRAP1-1:2	6.81	0.40	7.84	0.52	0.52	2.2058E-03
99	CUST_17985_PI427704219	Inc-LMF1-1	Inc-LMF1-1:1	6.39	0.35	7.43	0.27	0.52	2.8750E-04
100	CUST_19369_PI427704219	Inc-BIRC7-2	Inc-BIRC7-2:3	4.88	0.62	5.92	0.11	0.52	4.3940E-05
101	CUST_21750_PI427704219	Inc-REM1-1	Inc-REM1-1:1	4.68	0.19	5.71	0.79	0.52	5.8704E-03
102	CUST_3747_PI427704219	Inc-OPRK1-3	Inc-OPRK1-3:1	3.61	0.35	4.65	0.30	0.52	3.9588E-04
103	CUST_8746_PI427704219	Inc-FRG1-6	Inc-FRG1-6:2	3.94	0.34	4.98	0.62	0.52	3.3700E-03
104	CUST_11629_PI427704219	Inc-C14orf166-1	Inc-C14orf166-1:1	4.08	0.38	5.12	1.59	0.52	3.1613E-02
105	CUST_21219_PI427704219	Inc-VRK2-7	Inc-VRK2-7:1	4.19	0.55	5.24	1.01	0.51	1.2079E-02
106	CUST_18892_PI427704219	Inc-ZNF74-1	Inc-ZNF74-1:3	6.08	0.31	7.14	0.99	0.51	9.9406E-03
107	CUST_3918_PI427704219	Inc-VWA5B1-1	Inc-VWA5B1-1:1	5.12	0.34	6.18	1.08	0.51	1.2172E-02
108	CUST_11456_PI427704219	Inc-RP3-377D14.1.1-6	Inc-RP3-377D14.1.1-6:6	6.11	0.63	7.17	0.42	0.51	1.2513E-03
109	CUST_11392_PI427704219	Inc-RP11-204N11.1.1-3	Inc-RP11-204N11.1.1-3:8	4.02	0.39	5.09	1.30	0.51	1.8120E-02
110	CUST_10539_PI427704219	Inc-AC109486.1-1	Inc-AC109486.1-1:1	5.72	0.35	6.80	0.47	0.51	1.2165E-03
111	CUST_4739_PI427704219	Inc-GADD45G-5	Inc-GADD45G-5:2	3.87	0.38	4.95	1.60	0.50	2.7125E-02
112	CUST_660_PI427704219	Inc-AC131097.4.1-1	Inc-AC131097.4.1-1:2	5.87	0.29	6.95	1.65	0.50	2.8268E-02
113	CUST_9976_PI427704219	Inc-VPS18-1	Inc-VPS18-1:3	6.44	0.60	7.52	0.49	0.50	1.5969E-03
114	CUST_15292_PI427704219	Inc-PIEZO2-3	Inc-PIEZO2-3:3	5.24	0.56	6.32	0.96	0.50	9.0178E-03
115	CUST_13622_PI427704219	Inc-OGFRL1-1	Inc-OGFRL1-1:1	4.61	0.28	5.70	0.83	0.50	5.5105E-03
116	CUST_7132_PI427704219	Inc-ARRDC4-6	Inc-ARRDC4-6:2	5.02	0.64	6.10	0.88	0.50	7.4088E-03
117	CUST_21918_PI427704219	Inc-RAP1GDS1-4	Inc-RAP1GDS1-4:1	4.02	0.46	5.10	1.68	0.50	2.9142E-02
118	CUST_9443_PI427704219	Inc-DEK-1	Inc-DEK-1:1	5.24	0.62	6.33	0.38	0.50	7.5996E-04
119	CUST_11064_PI427704219	Inc-TRIM27-15	Inc-TRIM27-15:1	4.11	0.49	5.20	1.63	0.50	2.7089E-02
120	CUST_8188_PI427704219	Inc-GDF7-1	Inc-GDF7-1:1	4.63	0.57	5.73	1.74	0.50	3.0297E-02
121	CUST_6136_PI427704219	Inc-ODZ4-2	Inc-ODZ4-2:1	3.87	0.39	4.97	1.60	0.50	2.4548E-02
122	CUST_17782_PI427704219	Inc-PPP1R3B-4	Inc-PPP1R3B-4:3	4.91	0.34	6.02	0.26	0.49	1.3350E-04
123	CUST_11558_PI427704219	Inc-RP11-826N14.2.1-2	Inc-RP11-826N14.2.1-2:1	3.27	0.51	4.38	0.24	0.49	1.4856E-04
124	CUST_10862_PI427704219	Inc-HIBADH-1	Inc-HIBADH-1:1	3.77	0.23	4.88	0.95	0.49	6.3751E-03
125	CUST_22783_PI427704219	Inc-GABRA5-2	Inc-GABRA5-2:1	4.02	0.17	5.14	2.29	0.49	4.5002E-02
126	CUST_2346_PI427704219	Inc-RABL2A-2	Inc-RABL2A-2:1	8.58	0.46	9.71	0.46	0.49	8.2943E-04
127	CUST_15959_PI427704219	Inc-DHX37-10	Inc-DHX37-10:15	3.53	0.56	4.66	0.49	0.49	1.0981E-03
128	CUST_21764_PI427704219	Inc-WDR63-1	Inc-WDR63-1:1	8.94	0.69	10.09	0.42	0.48	7.1727E-04
129	CUST_7763_PI427704219	Inc-TMEM161B-2	Inc-TMEM161B-2:1	4.45	0.17	5.60	0.11	0.48	3.7663E-06
130	CUST_4375_PI427704219	Inc-AC009365.3.1-4	Inc-AC009365.3.1-4:1	5.38	0.29	6.53	0.98	0.48	5.7302E-03
131	CUST_22503_PI427704219	Inc-PPIAL4G-5	Inc-PPIAL4G-5:12	5.70	0.80	6.85	0.61	0.48	2.0008E-03
132	CUST_11121_PI427704219	Inc-DENND5A-1	Inc-DENND5A-1:1	8.19	0.55	9.35	0.87	0.48	4.6405E-03
133	CUST_1338_PI427704219	Inc-SLFN5-1	Inc-SLFN5-1:1	4.73	0.69	5.89	0.20	0.48	7.9093E-05
134	CUST_9810_PI427704219	Inc-SLFN5-1	Inc-SLFN5-1:4	4.60	0.76	5.76	0.08	0.48	1.4647E-05
135	CUST_12647_PI427704219	Inc-TRIML2-4	Inc-TRIML2-4:1	3.83	0.40	4.99	1.75	0.48	2.2626E-02
136	CUST_22292_PI427704219	Inc-SDK2-2	Inc-SDK2-2:3	3.51	0.34	4.67	0.07	0.48	8.3696E-07
137	CUST_18669_PI427704219	Inc-ELF2-3	Inc-ELF2-3:1	3.77	0.36	4.93	0.87	0.47	3.8659E-03
138	CUST_15468_PI427704219	Inc-ANLN-3	Inc-ANLN-3:1	4.49	0.37	5.65	0.44	0.47	4.6786E-04
139	CUST_15022_PI427704219	Inc-BOD1-1	Inc-BOD1-1:3	3.83	0.20	5.01	1.96	0.47	2.6719E-02
140	CUST_4243_PI427704219	Inc-FAM182B-6	Inc-FAM182B-6:4	3.99	0.30	5.17	1.58	0.47	1.6976E-02
141	A_33_P3589543	Inc-RASSF7-1	Inc-RASSF7-1:1	6.08	0.54	7.25	0.19	0.47	3.8500E-05
142	CUST_14641_PI427704219	Inc-RP11-1085N6.3.1-1	Inc-RP11-1085N6.3.1-1:1	3.39	0.70	4.56	1.28	0.47	1.1240E-02
143	CUST_1699_PI427704219	Inc-PITX2-1	Inc-PITX2-1:2	4.65	0.57	5.83	0.82	0.47	3.3173E-03
144	CUST_5598_PI427704219	Inc-MUC20-2	Inc-MUC20-2:2	4.50	0.34	5.68	1.38	0.47	1.2131E-02
145	CUST_14880_PI427704219	Inc-GALC-3	Inc-GALC-3:4	4.23	0.79	5.42	2.29	0.47	3.7845E-02
146	A_33_P3213149	Inc-IL17RA-4	Inc-IL17RA-4:5	5.79	0.42	6.99	0.72	0.47	1.9430E-03
147	CUST_15857_PI427704219	Inc-DHX37-10	Inc-DHX37-10:6	3.70	0.40	4.89	0.30	0.47	1.0713E-04
148	CUST_22644_PI427704219	Inc-SPRED2-7	Inc-SPRED2-7:1	7.15	0.52	8.36	2.25	0.46	3.2865E-02
149	CUST_16156_PI427704219	Inc-C5orf32-1	Inc-C5orf32-1:10	6.09	0.40	7.30	0.85	0.46	2.7959E-03
150	CUST_16296_PI427704219	Inc-RP11-204N11.1.1-3	Inc-RP11-204N11.1.1-3:15	4.71	0.88	5.92	0.63	0.46	1.5973E-03
151	CUST_4831_PI427704219	Inc-C2orf69-2	Inc-C2orf69-2:3	4.52	0.49	5.73	1.49	0.46	1.2735E-02
152	CUST_8339_PI427704219	Inc-TMPRSS15-9	Inc-TMPRSS15-9:1	4.08	0.38	5.30	1.39	0.46	1.0484E-02
153	CUST_87_PI427704219	Inc-GPR142-1	Inc-GPR142-1:1	5.73	0.58	6.95	0.33	0.46	1.6656E-04
154	CUST_5282_PI427704219	Inc-TRIML1-3	Inc-TRIML1-3:5	6.33	0.37	7.55	2.46	0.46	3.6327E-02
155	CUST_13134_PI427704219	Inc-GPR89B-5	Inc-GPR89B-5:1	4.84	0.66	6.06	0.96	0.46	4.3246E-03
156	CUST_10880_PI427704219	Inc-ARL15-3	Inc-ARL15-3:1	4.75	0.36	5.97	2.60	0.46	4.0071E-02
157	CUST_4455_PI427704219	Inc-AL137145.1-2	Inc-AL137145.1-2:13	5.08	0.83	6.30	1.45	0.45	1.2491E-02
158	CUST_13170_PI427704219	Inc-FAM160A1-3	Inc-FAM160A1-3:1	3.33	0.23	4.56	2.00	0.45	2.2464E-02
159	CUST_11881_PI427704219	Inc-ZNF705A-1	Inc-ZNF705A-1:9	3.77	0.50	5.01	1.82	0.45	1.8596E-02
160	CUST_22462_PI427704219	Inc-WRAP73-2	Inc-WRAP73-2:1	5.68	0.38	6.92	0.19	0.45	1.7576E-05
161	CUST_15777_PI427704219	Inc-AUH-2	Inc-AUH-2:2	4.62	0.47	5.86	1.55	0.45	1.2642E-02
162	CUST_20985_PI427704219	Inc-C1orf201-3	Inc-C1orf201-3:4	6.16	0.67	7.40	0.56	0.45	7.9386E-04
163	CUST_2693_PI427704219	Inc-AL137145.1-2	Inc-AL137145.1-2:14	4.96	0.75	6.20	1.19	0.45	6.8355E-03
164	CUST_15586_PI427704219	Inc-EFEMP1-1	Inc-EFEMP1-1:1	4.29	0.37	5.54	1.21	0.45	6.2282E-03
165	CUST_916_PI427704219	Inc-CLCN3-1	Inc-CLCN3-1:3	5.43	0.29	6.69	2.42	0.44	2.9705E-02
166	CUST_12423_PI427704219	Inc-STRA6-1	Inc-STRA6-1:1	4.48	0.65	5.74	1.77	0.44	1.5813E-02
167	CUST_7995_PI427704219	Inc-WDR48-1	Inc-WDR48-1:2	3.41	0.48	4.68	1.53	0.44	1.0900E-02
168	CUST_20276_PI427704219	Inc-SLCO6A1-1	Inc-SLCO6A1-1:1	5.81	0.43	7.07	0.49	0.44	3.4148E-04
169	CUST_2541_PI427704219	Inc-DHX37-10	Inc-DHX37-10:2	4.59	0.71	5.87	0.38	0.44	2.0296E-04
170	CUST_23036_PI427704219	Inc-MYCBP2-1	Inc-MYCBP2-1:1	4.27	0.97	5.55	2.05	0.44	2.2030E-02
171	CUST_18635_PI427704219	Inc-FANCI-2	Inc-FANCI-2:9	6.69	0.66	7.98	0.25	0.44	4.3522E-05
172	CUST_10287_PI427704219	Inc-AL713998.1-2	Inc-AL713998.1-2:1	7.13	1.04	8.43	0.15	0.43	2.5527E-05
173	CUST_20390_PI427704219	Inc-RP11-204N11.1.1-3	Inc-RP11-204N11.1.1-3:17	5.47	0.65	6.77	0.77	0.43	1.3906E-03
174	CUST_13309_PI427704219	Inc-RP11-204N11.1.1-3	Inc-RP11-204N11.1.1-3:9	4.62	0.74	5.93	0.74	0.43	1.2985E-03
175	CUST_16478_PI427704219	Inc-RASSF7-1	Inc-RASSF7-1:2	6.30	0.39	7.61	0.15	0.43	4.1848E-06
176	CUST_17587_PI427704219	Inc-GPR83-2	Inc-GPR83-2:1	8.79	0.60	10.10	1.00	0.43	2.7540E-03
177	CUST_6383_PI427704219	Inc-ZNF461-1	Inc-ZNF461-1:2	6.08	0.43	7.40	2.20	0.43	2.0168E-02
178	CUST_7351_PI427704219	Inc-DHX37-10	Inc-DHX37-10:12	3.25	0.70	4.57	0.45	0.43	2.4774E-04
179	CUST_16490_PI427704219	Inc-NUFIP1-1	Inc-NUFIP1-1:5	4.92	0.23	6.24	0.69	0.43	6.6538E-04
180	CUST_1458_PI427704219	Inc-TPO-2	Inc-TPO-2:2	3.89	0.54	5.21	1.39	0.43	6.7049E-03
181	CUST_14535_PI427704219	Inc-CDH5-9	Inc-CDH5-9:1	3.71	0.31	5.04	0.17	0.43	4.1848E-06
182	CUST_4946_PI427704219	Inc-PCDH12-1	Inc-PCDH12-1:1	5.74	0.41	7.07	0.89	0.42	1.6137E-03
183	CUST_5236_PI427704219	Inc-TSHZ3-2	Inc-TSHZ3-2:1	3.83	0.65	5.16	1.57	0.42	8.9576E-03
184	CUST_15579_PI427704219	Inc-HEATR2-3	Inc-HEATR2-3:7	3.98	0.45	5.34	0.38	0.41	6.4446E-05
185	CUST_2179_PI427704219	Inc-ACSM4-1	Inc-ACSM4-1:1	3.37	0.54	4.74	1.29	0.41	4.1291E-03
186	CUST_5732_PI427704219	Inc-GLT6D1-1	Inc-GLT6D1-1:1	3.61	0.24	4.99	2.13	0.41	1.3932E-02
187	CUST_13734_PI427704219	Inc-HAND2-1	Inc-HAND2-1:1	4.17	0.25	5.57	0.85	0.40	7.9846E-04
188	CUST_18768_PI427704219	Inc-ZC3H12B-2	Inc-ZC3H12B-2:2	7.44	1.46	8.85	0.46	0.40	3.0382E-04
189	CUST_10448_PI427704219	Inc-FAM160A1-1	Inc-FAM160A1-1:1	5.10	1.37	6.51	0.73	0.40	9.7004E-04

190	A_33_P3348519	lnc-IL18BP-1	lnc-IL18BP-1:2	5.78	0.35	7.20	0.92	0.40	1.0793E-03
191	CUST_2020_P1427704219	lnc-GLB1L2-3	lnc-GLB1L2-3:3	7.49	0.64	8.91	3.94	0.40	4.8754E-02
192	CUST_5881_P1427704219	lnc-RNF144A-3	lnc-RNF144A-3:1	4.61	0.58	6.03	0.24	0.40	1.2136E-05
193	CUST_10045_P1427704219	lnc-TMEM74-1	lnc-TMEM74-1:1	3.80	0.17	5.22	0.92	0.40	9.1019E-04
194	CUST_15189_P1427704219	lnc-AC009365.3.1-1	lnc-AC009365.3.1-1:1	4.19	0.50	5.62	2.60	0.40	1.9947E-02
195	CUST_18780_P1427704219	lnc-BRCA1-1	lnc-BRCA1-1:1	4.94	0.93	6.37	2.24	0.40	1.5046E-02
196	CUST_13771_P1427704219	lnc-USP31-1	lnc-USP31-1:1	5.97	0.38	7.40	1.85	0.39	8.2436E-03
197	CUST_7528_P1427704219	lnc-TNFRSF10A-1	lnc-TNFRSF10A-1:3	6.50	0.84	7.95	0.94	0.39	1.1977E-03
198	CUST_12785_P1427704219	lnc-FANCI-2	lnc-FANCI-2:21	6.52	0.75	7.98	0.22	0.39	1.0044E-05
199	CUST_11560_P1427704219	lnc-SPATA5-2	lnc-SPATA5-2:1	4.14	0.45	5.59	1.94	0.39	8.5843E-03
200	CUST_15794_P1427704219	lnc-THUMP3-1	lnc-THUMP3-1:2	7.57	1.15	9.03	0.79	0.39	8.0683E-04
201	CUST_437_P1427704219	lnc-MRE11A-1	lnc-MRE11A-1:2	4.82	0.57	6.28	1.36	0.39	3.1302E-03
202	CUST_4918_P1427704219	lnc-FAM120B-3	lnc-FAM120B-3:1	5.98	0.63	7.44	1.90	0.39	8.2127E-03
203	CUST_17121_P1427704219	lnc-C10orf122-1	lnc-C10orf122-1:8	4.54	0.45	6.01	2.19	0.38	1.0936E-02
204	CUST_14330_P1427704219	lnc-SH3GL3-1	lnc-SH3GL3-1:1	4.83	0.61	6.30	0.18	0.38	4.1848E-06
205	CUST_10043_P1427704219	lnc-ELAVL4-1	lnc-ELAVL4-1:1	3.51	0.33	4.99	2.01	0.38	8.4014E-03
206	CUST_3900_P1427704219	lnc-DHX37-10	lnc-DHX37-10:19	3.69	0.67	5.18	0.51	0.38	1.0629E-04
207	CUST_1162_P1427704219	lnc-CALML5-1	lnc-CALML5-1:1	5.98	0.23	7.47	3.89	0.38	3.6768E-02
208	CUST_14016_P1427704219	lnc-RFPL3-2	lnc-RFPL3-2:1	4.11	1.03	5.61	1.06	0.38	1.5111E-03
209	CUST_3074_P1427704219	lnc-GPR78-1	lnc-GPR78-1:1	4.78	0.80	6.27	1.33	0.38	2.6929E-03
210	CUST_22846_P1427704219	lnc-PKDCC-2	lnc-PKDCC-2:2	4.57	0.53	6.07	1.80	0.38	5.8106E-03
211	CUST_12973_P1427704219	lnc-PPIA-1	lnc-PPIA-1:4	10.08	0.68	11.59	0.50	0.37	7.8256E-05
212	CUST_9438_P1427704219	lnc-TMEM189-UBE2V1-3	lnc-TMEM189-UBE2V1-3:1	6.34	0.50	7.86	2.83	0.37	1.7268E-02
213	CUST_4510_P1427704219	lnc-ULBP3-1	lnc-ULBP3-1:1	4.91	0.59	6.44	2.13	0.37	8.4315E-03
214	CUST_3664_P1427704219	lnc-FMN1-4	lnc-FMN1-4:1	4.60	0.69	6.14	0.59	0.37	1.3350E-04
215	CUST_308_P1427704219	lnc-PPIA-1	lnc-PPIA-1:2	10.08	0.67	11.63	0.52	0.36	6.8631E-05
216	CUST_17715_P1427704219	lnc-TLL2-1	lnc-TLL2-1:1	4.53	0.62	6.08	3.18	0.36	2.0882E-02
217	CUST_473_P1427704219	lnc-C1QTNF8-3	lnc-C1QTNF8-3:8	6.80	1.70	8.36	1.65	0.36	4.9268E-03
218	CUST_7576_P1427704219	lnc-LMF1-2	lnc-LMF1-2:1	5.25	0.68	6.83	1.65	0.36	3.3370E-03
219	CUST_21816_P1427704219	lnc-RTL1-8	lnc-RTL1-8:1	4.07	0.87	5.65	2.50	0.36	1.0980E-02
220	CUST_2466_P1427704219	lnc-EPG5-1	lnc-EPG5-1:1	4.89	0.61	6.47	1.97	0.36	5.5114E-03
221	CUST_8752_P1427704219	lnc-C12orf43-1	lnc-C12orf43-1:4	5.68	1.23	7.27	3.40	0.35	2.3052E-02
222	CUST_16602_P1427704219	lnc-TMEM18-12	lnc-TMEM18-12:1	4.41	0.77	6.00	1.76	0.35	4.0015E-03
223	CUST_22229_P1427704219	lnc-APPL2-1	lnc-APPL2-1:1	4.27	0.71	5.86	3.42	0.35	2.1309E-02
224	CUST_14711_P1427704219	lnc-NDUFV2-1	lnc-NDUFV2-1:2	3.92	0.57	5.52	2.22	0.35	7.1024E-03
225	CUST_8809_P1427704219	lnc-TNRC6A-1	lnc-TNRC6A-1:1	3.80	1.04	5.40	3.05	0.35	1.6732E-02
226	CUST_16285_P1427704219	lnc-SUPT3H-1	lnc-SUPT3H-1:7	6.59	1.94	8.19	1.03	0.35	1.1630E-03
227	CUST_14676_P1427704219	lnc-PFKP-11	lnc-PFKP-11:1	5.68	0.68	7.29	1.57	0.35	2.5732E-03
228	CUST_3835_P1427704219	lnc-BTN3A2-1	lnc-BTN3A2-1:1	4.14	0.68	5.74	3.17	0.35	1.7338E-02
229	CUST_16448_P1427704219	lnc-DLK1-4	lnc-DLK1-4:23	8.24	1.24	9.86	2.16	0.35	7.1255E-03
230	CUST_19479_P1427704219	lnc-CLVS1-3	lnc-CLVS1-3:1	4.96	1.28	6.59	2.05	0.35	5.9709E-03
231	CUST_19230_P1427704219	lnc-MAGI2-1	lnc-MAGI2-1:2	3.85	0.50	5.47	2.84	0.35	1.2268E-02
232	CUST_896_P1427704219	lnc-PRMT8-2	lnc-PRMT8-2:1	5.13	1.60	6.80	1.54	0.34	2.3719E-03
233	CUST_4446_P1427704219	lnc-NUFIP1-2	lnc-NUFIP1-2:1	4.09	0.96	5.76	3.36	0.33	1.6725E-02
234	CUST_13527_P1427704219	lnc-C14orf79-2	lnc-C14orf79-2:2	6.70	0.44	8.40	5.81	0.33	4.7763E-02
235	CUST_7771_P1427704219	lnc-FAM75A5-2	lnc-FAM75A5-2:1	4.84	0.78	6.53	1.99	0.33	3.6588E-03
236	CUST_20921_P1427704219	lnc-FAM153C-4	lnc-FAM153C-4:4	6.80	1.43	8.50	1.34	0.33	1.2856E-03
237	CUST_15761_P1427704219	lnc-TRAPPC4-1	lnc-TRAPPC4-1:1	4.69	1.00	6.40	3.09	0.32	1.1838E-02
238	CUST_4076_P1427704219	lnc-GPR65-1	lnc-GPR65-1:13	6.51	0.86	8.24	1.57	0.32	1.5354E-03
239	A_33_P3409210	lnc-FAM153C-4	lnc-FAM153C-4:1	6.66	1.06	8.40	1.09	0.32	4.7246E-04
240	CUST_10993_P1427704219	lnc-EGLN1-2	lnc-EGLN1-2:1	3.74	0.25	5.49	3.15	0.32	1.0254E-02
241	CUST_619_P1427704219	lnc-RP11-433C9.2.1-1	lnc-RP11-433C9.2.1-1:1	3.57	1.16	5.34	4.89	0.31	2.8874E-02
242	CUST_21581_P1427704219	lnc-ZNF507-1	lnc-ZNF507-1:1	3.92	0.57	5.70	1.35	0.31	6.4320E-04
243	CUST_22140_P1427704219	lnc-PCDH10-9	lnc-PCDH10-9:2	9.15	1.70	10.94	1.47	0.31	1.2358E-03
244	CUST_21317_P1427704219	lnc-DCTD-2	lnc-DCTD-2:1	4.91	0.59	6.71	1.46	0.31	8.0850E-04
245	CUST_1332_P1427704219	lnc-SOX9-6	lnc-SOX9-6:1	4.85	0.66	6.66	1.81	0.30	1.6266E-03
246	CUST_2544_P1427704219	lnc-ZSCAN30-2	lnc-ZSCAN30-2:3	3.75	0.88	5.57	4.08	0.30	1.6789E-02
247	CUST_5697_P1427704219	lnc-GINS2-2	lnc-GINS2-2:2	8.40	0.97	10.24	1.46	0.30	7.4322E-04
248	CUST_11076_P1427704219	lnc-TRIB2-3	lnc-TRIB2-3:1	4.34	0.67	6.20	2.63	0.29	4.3334E-03
249	CUST_8686_P1427704219	lnc-COL22A1-2	lnc-COL22A1-2:1	4.25	1.74	6.13	6.81	0.29	4.5829E-02
250	CUST_21494_P1427704219	lnc-INSIG2-3	lnc-INSIG2-3:1	5.92	1.09	7.80	1.14	0.29	2.6992E-04
251	CUST_6180_P1427704219	lnc-RP11-973F15.1.1-4	lnc-RP11-973F15.1.1-4:1	5.12	0.85	7.01	0.19	0.29	0.0000E+00
252	CUST_21150_P1427704219	lnc-KDM4C-2	lnc-KDM4C-2:2	6.06	0.34	8.01	1.06	0.28	9.4577E-05
253	CUST_16469_P1427704219	lnc-C15orf57-2	lnc-C15orf57-2:1	6.74	0.72	8.70	4.54	0.27	1.4046E-02
254	CUST_20440_P1427704219	lnc-AJAP1-4	lnc-AJAP1-4:4	4.18	1.08	6.17	2.95	0.27	4.2225E-03
255	CUST_1329_P1427704219	lnc-AC090186.1-2	lnc-AC090186.1-2:1	4.51	1.00	6.56	2.58	0.26	2.2025E-03
256	CUST_6442_P1427704219	lnc-ENTHD1-1	lnc-ENTHD1-1:1	4.63	0.87	6.71	3.25	0.25	4.0141E-03
257	CUST_9992_P1427704219	lnc-NBAS-2	lnc-NBAS-2:1	6.02	1.08	8.11	2.15	0.25	1.0010E-03
258	CUST_9279_P1427704219	lnc-AL901608.1-3	lnc-AL901608.1-3:3	5.70	1.69	7.86	0.46	0.24	4.1848E-06
259	CUST_17453_P1427704219	lnc-RNF144A-3	lnc-RNF144A-3:2	6.00	1.77	8.16	0.36	0.24	1.6739E-06
260	CUST_18439_P1427704219	lnc-RTL1-6	lnc-RTL1-6:1	4.36	1.27	6.64	3.56	0.22	2.9407E-03
261	CUST_7463_P1427704219	lnc-CDH10-6	lnc-CDH10-6:3	3.81	1.66	6.13	3.93	0.21	3.7048E-03
262	CUST_12075_P1427704219	lnc-TNP1-2	lnc-TNP1-2:1	4.13	1.19	6.57	4.58	0.20	3.9806E-03
263	CUST_4703_P1427704219	lnc-ATP6V0D2-2	lnc-ATP6V0D2-2:1	4.57	1.19	7.03	0.82	0.19	4.6033E-06
264	CUST_12915_P1427704219	lnc-GNG8-1	lnc-GNG8-1:1	4.17	1.45	6.65	4.30	0.19	2.9545E-03
265	CUST_2981_P1427704219	lnc-YTHDF1-2	lnc-YTHDF1-2:1	6.10	1.16	8.58	3.24	0.19	1.0399E-03
266	CUST_16827_P1427704219	lnc-PIK3CG-2	lnc-PIK3CG-2:3	6.87	1.32	9.39	1.34	0.19	2.8875E-05
267	CUST_8573_P1427704219	lnc-TGFBRAP1-5	lnc-TGFBRAP1-5:3	4.82	4.25	7.39	7.80	0.18	1.5224E-02
268	CUST_16128_P1427704219	lnc-AKAP14-1	lnc-AKAP14-1:2	3.85	1.80	6.44	6.64	0.18	8.5002E-03
269	CUST_10246_P1427704219	lnc-FBXO25-3	lnc-FBXO25-3:1	8.14	1.65	10.73	1.80	0.18	7.8674E-05
270	CUST_16354_P1427704219	lnc-IAH1-3	lnc-IAH1-3:1	4.76	1.62	7.45	4.17	0.17	1.4814E-03
271	CUST_1684_P1427704219	lnc-WDR27-2	lnc-WDR27-2:3	7.39	1.82	10.13	2.83	0.16	3.1637E-04
272	CUST_737_P1427704219	lnc-TMEM135-2	lnc-TMEM135-2:2	3.65	0.30	6.45	6.23	0.15	3.7341E-03
273	CUST_9383_P1427704219	lnc-C10orf11-2	lnc-C10orf11-2:1	4.67	1.85	7.62	5.24	0.14	1.6049E-03
274	CUST_2861_P1427704219	lnc-AGA-5	lnc-AGA-5:1	4.88	2.03	7.92	4.54	0.13	7.8172E-04
275	CUST_17685_P1427704219	lnc-FASLG-2	lnc-FASLG-2:1	5.20	2.17	8.27	4.62	0.13	7.6163E-04
276	CUST_16719_P1427704219	lnc-CSMD1-5	lnc-CSMD1-5:1	4.34	1.89	7.43	5.27	0.13	1.1604E-03
277	CUST_11412_P1427704219	lnc-DHX37-10	lnc-DHX37-10:10	4.58	1.72	7.71	3.28	0.12	1.5819E-04
278	CUST_3811_P1427704219	lnc-ZC3H12D-2	lnc-ZC3H12D-2:1	6.73	2.98	10.06	5.68	0.11	9.1019E-04
279	CUST_12180_P1427704219	lnc-SNX24-1	lnc-SNX24-1:1	4.99	2.48	8.35	4.93	0.10	4.6912E-04
280	CUST_530_P1427704219	lnc-HOXC13-1	lnc-HOXC13-1:2	4.78	2.49	8.19	5.39	0.10	5.8378E-04
281	CUST_7887_P1427704219	lnc-UBE2Z-1	lnc-UBE2Z-1:1	5.95	2.24	9.42	6.02	0.10	7.4322E-04
282	CUST_10344_P1427704219	lnc-GFRA2-1	lnc-GFRA2-1:1	5.15	3.28	8.68	6.05	0.09	7.1100E-04
283	CUST_16810_P1427704219	lnc-SNX18-1	lnc-SNX18-1:1	5.27	3.23	8.86	6.77	0.09	9.4911E-04
284	CUST_6012_P1427704219	lnc-REEP5-1	lnc-REEP5-1:1	4.93	2.96	8.53	5.30	0.09	3.5110E-04
285	CUST_7483_P1427704219	lnc-DMXL1-3	lnc-DMXL1-3:1	4.68	3.25	8.33	5.12	0.09	2.8666E-04
286	CUST_14225_P1427704219	lnc-AL901608.1-2	lnc-AL901608.1-2:2	10.65	4.89	14.33	7.93	0.08	1.5563E-03

287	CUST_5246_PI427704219	Inc-FUT8-1	Inc-FUT8-1:1	5.54	2.61	9.24	5.51	0.08	3.1093E-04
288	CUST_19047_PI427704219	Inc-MAP2K6-2	Inc-MAP2K6-2:1	5.27	3.59	9.12	6.72	0.07	5.2101E-04
289	CUST_10768_PI427704219	Inc-FUT8-2	Inc-FUT8-2:2	6.46	4.62	10.63	5.65	0.06	1.3433E-04
290	CUST_13229_PI427704219	Inc-KCTD6-3	Inc-KCTD6-3:1	6.27	4.69	10.47	5.65	0.06	1.2680E-04
291	CUST_4888_PI427704219	Inc-DHX37-10	Inc-DHX37-10:1	5.25	3.51	9.50	6.91	0.06	2.3058E-04
292	CUST_15289_PI427704219	Inc-YSK4-1	Inc-YSK4-1:2	9.07	5.12	13.34	4.24	0.06	3.1804E-05
293	CUST_7937_PI427704219	Inc-MFSD9-4	Inc-MFSD9-4:1	5.74	4.75	10.08	8.19	0.05	4.3313E-04
294	CUST_22178_PI427704219	Inc-NDUFS8-2	Inc-NDUFS8-2:3	6.84	5.86	11.22	6.83	0.05	2.1091E-04
295	CUST_12301_PI427704219	Inc-TCL1B-2	Inc-TCL1B-2:2	8.05	5.13	12.46	5.47	0.05	6.1517E-05
296	CUST_2112_PI427704219	Inc-RAN-1	Inc-RAN-1:1	7.94	5.47	12.44	4.91	0.05	3.4315E-05
297	CUST_15665_PI427704219	Inc-ACVR2A-2	Inc-ACVR2A-2:1	8.86	7.18	13.58	4.52	0.04	1.9669E-05
298	CUST_1820_PI427704219	Inc-HMCN1-2	Inc-HMCN1-2:2	7.02	7.46	11.83	7.87	0.04	1.7241E-04
299	CUST_17444_PI427704219	Inc-SOX6-1	Inc-SOX6-1:1	8.36	7.28	13.27	5.16	0.04	2.1342E-05
300	CUST_4237_PI427704219	Inc-SUPT3H-1	Inc-SUPT3H-1:5	8.32	8.96	13.54	5.09	0.03	1.4228E-05







**Table S4: Overlap between the top- 15 curated gene sets positively and negatively correlating with the top 5 upregulated lncRNAs (lnc-THADA-4, lnc-SYF2-2, lnc-BASP1-3, lnc-ACSL1-1 and lnc-CROCC-1) and the top 5 downregulated lncRNAs (lnc-SUPT3H-1, lnc-SOX6-1, lnc-HMCN1-2, lnc-ACVR2A-2 and lnc-RAN-1) in JMML compared to healthy controls. All the genesets were significantly (anti-)correlated with the lncRNAs (P-value <0.05). The green '+' symbol indicates a positive correlation between the gene set and the lncRNA and the red '-' symbol indicates a negative correlation between the gene set and the lncRNA.**

<b>Genesets correlated with top 5 upregulated lncRNAs in JMML</b>	<b><i>lnc-THADA-4</i></b>	<b><i>lnc-SYF2-2</i></b>	<b><i>lnc-BASP1-3</i></b>	<b><i>lnc-ACSL1-1</i></b>	<b><i>lnc-CROCC-1</i></b>
MULLIGHAN_MLL_SIGNATURE_1_UP	+	+	+		+
MULLIGHAN_MLL_SIGNATURE_2_UP	+	+	+		+
LENAOUR_DENDRITIC_CELL_MATURATION_DN		+	+	+	
THEILGAARD_NEUTROPHIL_AT_SKIN_WOUND_DN	+	+	+		+
BROWN_MYELOID_CELL_DEVELOPMENT_UP		+	+	+	+
HUANG_GATA2_TARGETS_UP		+	+		
LI_DCP2_BOUND_MRNA					
VERHAAK_GLIOBLASTOMA_MESENCHYMAL					
ICHIBA_GRAFT_VERSUS_HOST_DISEASE_35D_UP					
DUNNE_TARGETS_OF_AML1_MTG8_FUSION_UP		+	+		+
KAMIKUBO_MYELOID_CEBPA_NETWORK		+	+		
KEGG_LYSOSOME					
TAKEDA_TARGETS_OF_NUP98_HOXA9_FUSION_16D_DN		+	+		+
KIM_ALL_DISORDERS_DURATION_CORR_DN					
BENNETT_SYSTEMIC_LUPUS_ERYTHEMATOSUS		+	+	+	
RUTELLA_RESPONSE_TO_HGF_DN					
YAO_TEMPORAL_RESPONSE_TO_PROGESTERONE_CLUSTER_13	+				
BROWNE_INTERFERON_RESPONSIVE_GENES			+	+	
HECKER_IFNB1_TARGETS			+	+	
TAVOR_CEBPA_TARGETS_UP		+	+		
HUANG_GATA2_TARGETS_UP		+	+		
KAMIKUBO_MYELOID_CEBPA_NETWORK		+	+		
PARK_APL_PATHOGENESIS_DN		+	+		
CHUNG_BLISTER_CYTOTOXICITY_DN		+	+		
MOOTHA_VOXPPOS	+				+
PHONG_TNF_TARGETS_UP				+	
BIOCARTA_IL1R_PATHWAY				+	
SEKI_INFLAMMATORY_RESPONSE_LPS_UP				+	
ZHANG_RESPONSE_TO_IKK_INHIBITOR_AND_TNF_UP				+	
ALTEMEIER_RESPONSE_TO_LPS_WITH_MECHANICAL_VENTILATION				+	
NEMETH_INFLAMMATORY_RESPONSE_LPS_UP				+	
THEILGAARD_NEUTROPHIL_AT_SKIN_WOUND_UP				+	
HAHTOLA_MYCOSIS_FUNGOIDES_CD4_UP				+	
GALINDO_IMMUNE_RESPONSE_TO_ENTEROTOXIN				+	
LUI_THYROID_CANCER_PAX8_PPARG_DN					+
SEIDEN_ONCOGENESIS_BY_MET					+
SHEN_SMARCA2_TARGETS_UP					+
REACTOME_MRNA_SPLICING					+
SESTO_RESPONSE_TO_UV_C0					+
OSMAN_BLADDER_CANCER_UP					+
GOLUB_ALL_VS_AML_DN					+
HSIAO_HOUSEKEEPING_GENES					+
WONG_MITOCHONDRIA_GENE_MODULE	+				
MOOTHA_MITOCHONDRIA	+				
REACTOME_RESPIRATORY_ELECTRON_TRANSPORT_ATP_SYNTHESIS	+				
RHEIN_ALL_GLUCOCORTICOID_THERAPY_DN	+				
REACTOME_TCA_CYCLE_AND_RESPIRATORY_ELECTRON_TRANSPORT	+				
REACTOME_RESPIRATORY_ELECTRON_TRANSPORT	+				
CHIANG_LIVER_CANCER_SUBCLASS_UNANNOTATED_DN	+				
JAATINEN_HEMATOPOIETIC_STEM_CELL_UP	+				
WONG_EMBRYONIC_STEM_CELL_CORE	+				
YAO_TEMPORAL_RESPONSE_TO_PROGESTERONE_CLUSTER_17	+				
DAVIES_MULTIPLE_MYELOMA_VS_MGUS_DN		+			
DAVIES_MULTIPLE_MYELOMA_VS_MGUS_DN		+			
<b>Genesets anticorrelated with top 5 upregulated lncRNAs in JMML</b>	<b><i>lnc-THADA-4</i></b>	<b><i>lnc-SYF2-2</i></b>	<b><i>lnc-BASP1-3</i></b>	<b><i>lnc-ACSL1-1</i></b>	<b><i>lnc-CROCC-1</i></b>
REACTOME_OLFACTORY_SIGNALING_PATHWAY	-	-	-		-
KEGG_OLFACTORY_TRANSDUCTION	-	-	-		-
MIKKELSEN_MCV6_HCP_WITH_H3K27ME3	-	-	-		-
MIKKELSEN_NPC_HCP_WITH_H3K27ME3	-	-	-		-
VECCHI_GASTRIC_CANCER_EARLY_DN	-	-	-		-
MEISSNER_BRAIN_HCP_WITH_H3K27ME3	-	-	-		-
KONDO_PROSTATE_CANCER_WITH_H3K27ME3	-	-	-		-
NEWMAN_ERCC6_TARGETS_DN	-	-	-		-
MIKKELSEN_ES_HCP_WITH_H3K27ME3	-	-	-		-
NABA_SECRETED_FACTORS	-	-	-		-
BHAT_ESR1_TARGETS_NOT_VIA_AKT1_UP	-	-	-		-
SABATES_COLORECTAL_ADENOMA_DN	-	-	-		-
MEISSNER_NPC_HCP_WITH_H3K4ME2_AND_H3K27ME3	-	-	-		-

REACTOME_GPCR_LIGAND_BINDING	-				
HAHTOLA_SEZARY_SYNDROM_DN		-		-	
REACTOME_PEPTIDE_CHAIN_ELONGATION		-		-	
KEGG_RIBOSOME		-		-	
BIOCARTA_CTLA4_PATHWAY		-		-	
MIKKELSEN_IPS_ICP_WITH_H3K27ME3	-				
MEISSNER_NPC_HCP_WITH_H3K27ME3	-				
MIKKELSEN_IPS_WITH_HCP_H3K27ME3	-				
MIKKELSEN_ES_HCP_WITH_H3_UNMETHYLATED	-				
BOQUEST_STEM_CELL_CULTURED_VS_FRESH_DN	-				
MIKKELSEN_IPS_HCP_WITH_H3_UNMETHYLATED	-				
REACTOME_LIGAND_GATED_ION_CHANNEL_TRANSPORT	-				
REACTOME_PEPTIDE_LIGAND_BINDING_RECEPTORS		-			
MIKKELSEN_ES_ICP_WITH_H3K4ME3_AND_H3K27ME3		-			
MIKKELSEN_MEF_ICP_WITH_H3K27ME3		-			
KEGG_CELL_ADHESION_MOLECULES_CAMS		-			
LIM_MAMMARY_STEM_CELL_UP		-			
ACEVEDO_FGFR1_TARGETS_IN_PROSTATE_CANCER_MODEL_DN		-			
REACTOME_3_UTR_MEDIATED_TRANSLATIONAL_REGULATION		-			
YAUCH_HEDGEHOG_SIGNALING_PARACRINE_DN		-			
SMID_BREAST_CANCER_LUMINAL_B_UP		-			
NABA_BASEMENT_MEMBRANES				-	
KEGG_PRIMARY_IMMUNODEFICIENCY				-	
REACTOME_TELOMERE_MAINTENANCE				-	
THUM_MIR21_TARGETS_HEART_DISEASE_UP				-	
REACTOME_RNA_POL_I_PROMOTER_OPENING				-	
REACTOME_DEPOSITION_OF_NEW_CENPA_CONTAINING_NUCLEOSOMES_AT_THE_CENTROMERE				-	
CUI_TCF21_TARGETS_2_UP				-	
NIKOLSKY_BREAST_CANCER_19Q13.1_AMPLICON				-	
REACTOME_MEIOTIC_RECOMBINATION				-	
REACTOME_PHOSPHORYLATION_OF_CD3_AND_TCR_ZETA_CHAINS				-	
ZHAN_MULTIPLE_MYELOMA_MS_UP				-	
ROSS_AML_OF_FAB_M7_TYPE				-	
REACTOME_CLASS_A1_RHODOPSIN_LIKE_RECEPTORS					-
SHEN_SMARCA2_TARGETS_DN					-
MIKKELSEN_MCV6_ICP_WITH_H3K4ME3_AND_H3K27ME3					-

<b>Genesets correlated with top 5 downregulated lncRNAs in JMML</b>	<i>lnc-SUPT3H-1</i>	<i>lnc-SOX6-1</i>	<i>lnc-HMCN1-2</i>	<i>lnc-ACVR2A-2</i>	<i>lnc-RAN-1</i>
NIKOLSKY_BREAST_CANCER_19Q13.1_AMPLICON	+	+	+	+	+
KONDO_PROSTATE_CANCER_WITH_H3K27ME3	+	+	+	+	+
SU_KIDNEY	+	+	+	+	+
KEGG_OLFACTORY_TRANSDUCTION	+	+	+	+	+
MEISSNER_BRAIN_HCP_WITH_H3K27ME3	+	+	+	+	+
REACTOME_OLFACTORY_SIGNALING_PATHWAY	+	+	+	+	+
MAHADEVAN_IMATINIB_RESISTANCE_UP	+	+	+	+	+
REACTOME_SIGNALING_BY_BMP		+	+	+	+
STAEGE_EWING_FAMILY_TUMOR		+	+	+	+
KEGG_STEROID_HORMONE_BIOSYNTHESIS	+		+	+	+
THUM_MIR21_TARGETS_HEART_DISEASE_UP	+		+	+	+
YAMASHITA_LIVER_CANCER_WITH_EPCAM_DN	+	+	+	+	
WEBER_METHYLATED_ICP_IN_FIBROBLAST	+	+		+	+
KEGG_MATURITY_ONSET_DIABETES_OF_THE_YOUNG	+	+	+		+
MIKKELSEN_NPC_HCP_WITH_H3K27ME3	+	+			+
BIOCARTA_AMI_PATHWAY			+	+	
SHARMA_PILOCYTIC_ASTROCYTOMA_LOCATION_UP				+	
MEISSNER_NPC_HCP_WITH_H3K27ME3			+		
REACTOME_REGULATION_OF_BETA_CELL_DEVELOPMENT					+
PID_ERBB_NETWORK_PATHWAY		+			
KEGG_HEDGEHOG_SIGNALING_PATHWAY		+			
REACTOME_BETA_DEFENSINS	+				
REACTOME_PACKAGING_OF_TELOMERE_ENDS	+				

<b>Genesets anticorrelated with top 5 downregulated lncRNAs in JMML</b>	<i>lnc-SUPT3H-1</i>	<i>lnc-SOX6-1</i>	<i>lnc-HMCN1-2</i>	<i>lnc-ACVR2A-2</i>	<i>lnc-RAN-1</i>
MULLIGHAN_MLL_SIGNATURE_2_UP	-	-	-	-	-
THEILGAARD_NEUTROPHIL_AT_SKIN_WOUND_DN	-	-	-	-	-
BROWN_MYELOID_CELL_DEVELOPMENT_UP	-	-	-	-	-
HUANG_GATA2_TARGETS_UP	-	-	-	-	-
LI_DCP2_BOUND_MRNA	-	-	-	-	-
VERHAAK_GLIOMASTOMA_MESENCHYMAL	-	-	-	-	-
MULLIGHAN_MLL_SIGNATURE_1_UP	-	-	-	-	-
DUNNE_TARGETS_OF_AML1_MTG8_FUSION_UP	-	-	-	-	-
LENAOUR_DENDRITIC_CELL_MATURATION_DN	-	-	-	-	-
TAKEDA_TARGETS_OF_NUP98_HOXA9_FUSION_16D_DN	-	-	-	-	-
ICHIBA_GRAFT_VERSUS_HOST_DISEASE_35D_UP	-	-	-	-	-

RUTELLA_RESPONSE_TO_CSF2RB_AND_IL4_DN	-	-	-	-
KAMIKUBO_MYELOID_CEBPA_NETWORK		-	-	-
KIM_ALL_DISORDERS_DURATION_CORR_DN		-	-	-
KEGG_LYSOSOME	-		-	-
RUTELLA_RESPONSE_TO_HGF_DN		-		-
HAHTOLA_SEZARY_SYNDROM_UP	-			
PARK_APL_PATHOGENESIS_DN	-			
BENNETT_SYSTEMIC_LUPUS_ERYTHEMATOSUS		-		
YAO_TEMPORAL_RESPONSE_TO_PROGESTERONE_CLUSTER_13		-		
MARTENS_BOUND_BY_PML_RARA_FUSION			-	
MARKEY_RB1_ACUTE_LOF_DN			-	

**Table S5. Differential expressed lncRNAs in different JMML subgroups**

***Differential expressed lncRNAs between elevated HbF for age and normal HbF for age***

Probe_Name	Gene_Name	Transcript	Fold change	Direction
CUST_18292_PI427704219	lnc-C2orf54-1	lnc-C2orf54-1:2	7.40	Upregulated in normal HbF
CUST_15800_PI427704219	lnc-TPO-4	lnc-TPO-4:1	3.46	Upregulated in normal HbF
A_32_P10133	PRINS	PRINS	3.21	Upregulated in normal HbF
A_32_P112623	FAM27E3	FAM27E3	3.13	Upregulated in normal HbF
CUST_4703_PI427704219	lnc-ATP6V0D2-2	lnc-ATP6V0D2-2:1	2.79	Upregulated in normal HbF
CUST_2725_PI427704219	lnc-CCT8-1	lnc-CCT8-1:1	2.36	Upregulated in normal HbF
CUST_1500_PI427704219	lnc-SH3BGRL2-1	lnc-SH3BGRL2-1:4	2.28	Upregulated in normal HbF
CUST_3307_PI427704219	lnc-FRMD4A-1	lnc-FRMD4A-1:4	2.13	Upregulated in normal HbF

***Differential expressed lncRNAs between JMML patients with monosomy 7 and normal karyotype (blocked for RAS mutations through a randomized block design)***

Probe_Name	Gene_Name	Transcript	Fold change	direction
CUST_5241_PI427704219	lnc-RTN1-2	lnc-RTN1-2:1	3.85	Upregulated in monosomy 7
CUST_18371_PI427704219	lnc-CREM-1	lnc-CREM-1:1	2.76	Upregulated in monosomy 7
CUST_18292_PI427704219	lnc-C2orf54-1	lnc-C2orf54-1:2	9.79	Upregulated in monosomy 7
CUST_13642_PI427704219	lnc-TEK-1	lnc-TEK-1:1	2.53	Upregulated in monosomy 7
CUST_14809_PI427704219	lnc-SMARCAL1-3	lnc-SMARCAL1-3:2	2.38	Upregulated in monosomy 7
CUST_7772_PI427704219	lnc-C1D-2	lnc-C1D-2:1	2.47	Upregulated in monosomy 7
A_32_P10133	PRINS	PRINS	3.86	Upregulated in monosomy 7
CUST_11502_PI427704219	lnc-FRMD4A-1	lnc-FRMD4A-1:4	2.81	Upregulated in monosomy 7
CUST_16989_PI427704219	lnc-SH2B3-1	lnc-SH2B3-1:3	4.07	Upregulated in monosomy 7
CUST_18252_PI427704219	lnc-RTN1-2	lnc-RTN1-2:2	3.07	Upregulated in monosomy 7
CUST_1500_PI427704219	lnc-SH3BGRL2-1	lnc-SH3BGRL2-1:4	2.56	Upregulated in monosomy 7
CUST_19051_PI427704219	lnc-HEATR6-1	lnc-HEATR6-1:3	3.58	Upregulated in monosomy 7
CUST_5922_PI427704219	lnc-ZNF33A-2	lnc-ZNF33A-2:1	2.54	Upregulated in monosomy 7
CUST_16665_PI427704219	lnc-POTEG-4	lnc-POTEG-4:7	3.40	Upregulated in monosomy 7
CUST_1407_PI427704219	lnc-SH2B3-1	lnc-SH2B3-1:2	3.68	Upregulated in monosomy 7
CUST_690_PI427704219	lnc-BACH1-2	lnc-BACH1-2:2	2.05	Upregulated in monosomy 7
CUST_1806_PI427704219	lnc-BANP-2	lnc-BANP-2:1	2.63	Upregulated in monosomy 7
CUST_8271_PI427704219	lnc-CACNB3-1	lnc-CACNB3-1:3	2.05	Upregulated in monosomy 7
CUST_629_PI427704219	lnc-ZFP37-1	lnc-ZFP37-1:1	2.24	Upregulated in monosomy 7
CUST_10448_PI427704219	lnc-FAM160A1-1	lnc-FAM160A1-1:1	3.40	Upregulated in monosomy 7
A_33_P3221009	lnc-METTL19-1	lnc-METTL19-1:2	2.38	Upregulated in monosomy 7
CUST_13028_PI427704219	lnc-OPHN1-1	lnc-OPHN1-1:1	2.22	Upregulated in monosomy 7
CUST_9549_PI427704219	lnc-ZNF705D-2	lnc-ZNF705D-2:3	2.07	Upregulated in monosomy 7
CUST_6740_PI427704219	lnc-RP11-342M21.2.1-2	lnc-RP11-342M21.2.1-2:2	2.36	Upregulated in monosomy 7
CUST_15791_PI427704219	lnc-NFAM1-2	lnc-NFAM1-2:2	2.92	Upregulated in monosomy 7
CUST_18215_PI427704219	lnc-PTGES2-1	lnc-PTGES2-1:5	2.07	Upregulated in monosomy 7
CUST_4720_PI427704219	lnc-ZC3H12B-1	lnc-ZC3H12B-1:1	2.00	Upregulated in monosomy 7
CUST_3062_PI427704219	lnc-ALG1L-2	lnc-ALG1L-2:1	2.15	Upregulated in monosomy 7
CUST_2725_PI427704219	lnc-CCT8-1	lnc-CCT8-1:1	2.61	Upregulated in monosomy 7
CUST_12689_PI427704219	lnc-KCTD6-1	lnc-KCTD6-1:4	2.56	Upregulated in monosomy 7
CUST_4566_PI427704219	lnc-PIGF-3	lnc-PIGF-3:2	2.75	Upregulated in monosomy 7
CUST_11748_PI427704219	lnc-UBE2E2-1	lnc-UBE2E2-1:1	2.12	Upregulated in monosomy 7
CUST_8891_PI427704219	lnc-ANKRD31-1	lnc-ANKRD31-1:1	2.11	Upregulated in monosomy 7
A_23_P166508	lnc-NFAM1-2	lnc-NFAM1-2:1	2.73	Upregulated in monosomy 7
CUST_473_PI427704219	lnc-C1QTNF8-3	lnc-C1QTNF8-3:8	3.13	Upregulated in monosomy 7
CUST_22503_PI427704219	lnc-PPIAL4G-5	lnc-PPIAL4G-5:12	2.33	Upregulated in monosomy 7
CUST_11264_PI427704219	lnc-ZEB2-1	lnc-ZEB2-1:1	2.58	Upregulated in monosomy 7
CUST_19257_PI427704219	lnc-AL592284.1-1	lnc-AL592284.1-1:6	2.31	Upregulated in monosomy 7
CUST_8920_PI427704219	lnc-FGF9-1	lnc-FGF9-1:1	2.31	Upregulated in monosomy 7
CUST_17225_PI427704219	lnc-ZNF705D-3	lnc-ZNF705D-3:1	2.07	Upregulated in monosomy 7
CUST_8669_PI427704219	lnc-ANKRD27-5	lnc-ANKRD27-5:2	2.05	Upregulated in monosomy 7
CUST_3295_PI427704219	lnc-SLC24A3-1	lnc-SLC24A3-1:3	2.06	Upregulated in monosomy 7
CUST_1682_PI427704219	lnc-KRT80-4	lnc-KRT80-4:2	2.11	Upregulated in monosomy 7
CUST_10400_PI427704219	lnc-SEPT9-3	lnc-SEPT9-3:4	2.20	Upregulated in monosomy 7
CUST_18768_PI427704219	lnc-ZC3H12B-2	lnc-ZC3H12B-2:2	2.78	Upregulated in monosomy 7
CUST_15563_PI427704219	lnc-BHLHE41-2	lnc-BHLHE41-2:8	2.05	Upregulated in monosomy 7
CUST_22250_PI427704219	lnc-IL17RA-2	lnc-IL17RA-2:1	2.28	Upregulated in monosomy 7
CUST_6794_PI427704219	lnc-USP25-3	lnc-USP25-3:1	2.16	Upregulated in monosomy 7
CUST_7227_PI427704219	lnc-EFCAB1-4	lnc-EFCAB1-4:1	2.17	Upregulated in monosomy 7
CUST_22026_PI427704219	lnc-OR4M2-7	lnc-OR4M2-7:1	4.32	Upregulated in monosomy 7
CUST_6515_PI427704219	lnc-SEPT9-3	lnc-SEPT9-3:5	2.16	Upregulated in monosomy 7
CUST_16106_PI427704219	lnc-TMEM75-3	lnc-TMEM75-3:3	2.35	Upregulated in monosomy 7
CUST_4703_PI427704219	lnc-ATP6V0D2-2	lnc-ATP6V0D2-2:1	2.46	Upregulated in monosomy 7
CUST_16602_PI427704219	lnc-TMEM18-12	lnc-TMEM18-12:1	2.14	Upregulated in monosomy 7
A_33_P3302205	lnc-SERAC1-1	lnc-SERAC1-1:1	2.13	Upregulated in monosomy 7

***Differential expressed lncRNAs between JMML patients with and without PTPN11 mutations***

Probe_Name	Gene_Name	Transcript	Fold change	Direction
CUST_2836_PI427704219	lnc-CTDSP2-2	lnc-CTDSP2-2:4	2.96	Upregulated in PTPN11 mutated patients
CUST_5070_PI427704219	lnc-OR10H5-2	lnc-OR10H5-2:4	3.01	Upregulated in PTPN11 mutated patients
CUST_15107_PI427704219	lnc-SCCPDH-1	lnc-SCCPDH-1:8	2.38	Upregulated in PTPN11 mutated patients
CUST_21534_PI427704219	lnc-DLK1-8	lnc-DLK1-8:6	2.28	Upregulated in PTPN11 mutated patients
CUST_7509_PI427704219	lnc-KCNJ9-2	lnc-KCNJ9-2:1	2.65	Upregulated in PTPN11 mutated patients
CUST_13759_PI427704219	lnc-KIAA0226-3	lnc-KIAA0226-3:3	2.23	Upregulated in PTPN11 mutated patients
CUST_12368_PI427704219	lnc-SH2B3-1	lnc-SH2B3-1:3	2.46	downregulated in PTPN11 mutated patients

CUST_8078_PI427704219	lnc-HAPLN1-1	lnc-HAPLN1-1:1	2.00	downregulated in PTPN11 mutated patients
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**Differential expressed lncRNAs between JMML patients with and without KRAS mutations**

Probe_Name	Gene_Name	Transcript	Fold change	Direction
CUST_18292_PI427704219	lnc-C2orf54-1	lnc-C2orf54-1:2	4.35	Upregulated in KRAS mutated patients
CUST_22691_PI427704219	lnc-CDYL-3	lnc-CDYL-3:1	2.07	Upregulated in KRAS mutated patients
CUST_21800_PI427704219	lnc-FAM83A-1	lnc-FAM83A-1:1	2.14	Upregulated in KRAS mutated patients
CUST_14242_PI427704219	lnc-ATXN7L3B-2	lnc-ATXN7L3B-2:2	2.06	Upregulated in KRAS mutated patients
CUST_7287_PI427704219	lnc-RAPGEF2-2	lnc-RAPGEF2-2:1	2.15	Upregulated in KRAS mutated patients
CUST_8833_PI427704219	lnc-RXFP3-1	lnc-RXFP3-1:1	2.02	Upregulated in KRAS mutated patients
A_33_P3391736	lnc-ZCCHC7-3	lnc-ZCCHC7-3:1	2.16	Upregulated in KRAS mutated patients
CUST_5785_PI427704219	lnc-CEP44-4	lnc-CEP44-4:1	2.48	Upregulated in KRAS mutated patients
CUST_7476_PI427704219	lnc-PKDCC-2	lnc-PKDCC-2:4	2.22	Upregulated in KRAS mutated patients
CUST_2725_PI427704219	lnc-CCT8-1	lnc-CCT8-1:1	2.12	Upregulated in KRAS mutated patients
CUST_8855_PI427704219	lnc-ILK-3	lnc-ILK-3:1	2.11	Upregulated in KRAS mutated patients
CUST_14152_PI427704219	lnc-RP11-10A14.4.1-4	lnc-RP11-10A14.4.1-4:4	2.90	Upregulated in KRAS mutated patients
CUST_13648_PI427704219	lnc-LMX1A-2	lnc-LMX1A-2:1	2.07	Upregulated in KRAS mutated patients
CUST_8840_PI427704219	lnc-ZNF583-1	lnc-ZNF583-1:7	2.40	Upregulated in KRAS mutated patients
CUST_22789_PI427704219	lnc-KCNG3-1	lnc-KCNG3-1:2	2.19	Upregulated in KRAS mutated patients
CUST_14756_PI427704219	lnc-CCDC152-1	lnc-CCDC152-1:1	2.36	Upregulated in KRAS mutated patients
CUST_17506_PI427704219	lnc-KCNC2-2	lnc-KCNC2-2:4	2.01	Upregulated in KRAS mutated patients
CUST_13579_PI427704219	lnc-THADA-4	lnc-THADA-4:1	5.74	Downregulated in KRAS mutated patients
CUST_7375_PI427704219	lnc-THADA-4	lnc-THADA-4:3	4.06	Downregulated in KRAS mutated patients
CUST_15107_PI427704219	lnc-SCCPDH-1	lnc-SCCPDH-1:8	3.31	Downregulated in KRAS mutated patients
CUST_21418_PI427704219	lnc-CXCR3-4	lnc-CXCR3-4:2	2.14	Downregulated in KRAS mutated patients
CUST_9738_PI427704219	lnc-RBM48-1	lnc-RBM48-1:4	3.05	Downregulated in KRAS mutated patients
CUST_10895_PI427704219	lnc-RBM48-1	lnc-RBM48-1:3	2.92	Downregulated in KRAS mutated patients
CUST_3789_PI427704219	lnc-C5orf39-1	lnc-C5orf39-1:10	2.63	Downregulated in KRAS mutated patients
A_33_P3308481	HYMAI	HYMAI	2.22	Downregulated in KRAS mutated patients
A_33_P3318763	lnc-RBM48-1	lnc-RBM48-1:2	2.97	Downregulated in KRAS mutated patients

**Differential expressed lncRNAs between JMML patients with and without NRAS mutations**

Probe_Name	Gene_Name	Transcript	Fold change	Direction
CUST_18894_PI427704219	lnc-GNAO1-1	lnc-GNAO1-1:1	2.40	Upregulated in NRAS mutated patients
CUST_6139_PI427704219	lnc-FABP5-2	lnc-FABP5-2:2	2.37	Upregulated in NRAS mutated patients
CUST_11279_PI427704219	lnc-RBM19-1	lnc-RBM19-1:7	2.01	Upregulated in NRAS mutated patients
CUST_10729_PI427704219	lnc-TUBA3C-1	lnc-TUBA3C-1:1	2.93	Upregulated in NRAS mutated patients

**Differential expressed lncRNAs between JMML patients with and without NF1 mutations**

Probe_Name	Gene_Name	Transcript	Fold change	Direction
CUST_17716_PI427704219	lnc-MCTP2-7	lnc-MCTP2-7:1	17.56	downregulated in NF1 mutated patients
CUST_20459_PI427704219	lnc-ZG16-3	lnc-ZG16-3:1	12.90	downregulated in NF1 mutated patients
CUST_12374_PI427704219	lnc-ANKRD30A-7	lnc-ANKRD30A-7:1	12.52	downregulated in NF1 mutated patients
CUST_9166_PI427704219	lnc-GABARAPL3-1	lnc-GABARAPL3-1:1	11.88	downregulated in NF1 mutated patients
A_33_P3281036	HCG11	HCG11	11.10	downregulated in NF1 mutated patients
CUST_13230_PI427704219	lnc-SGCG-3	lnc-SGCG-3:1	10.76	downregulated in NF1 mutated patients
CUST_9207_PI427704219	lnc-HMGNA4-1	lnc-HMGNA4-1:1	10.50	downregulated in NF1 mutated patients
CUST_22026_PI427704219	lnc-OR4M2-7	lnc-OR4M2-7:1	10.49	downregulated in NF1 mutated patients
CUST_21269_PI427704219	lnc-SERPINC1-1	lnc-SERPINC1-1:7	10.28	downregulated in NF1 mutated patients
CUST_17847_PI427704219	lnc-ADARB1-3	lnc-ADARB1-3:12	9.72	downregulated in NF1 mutated patients
CUST_20089_PI427704219	lnc-SMUG1-7	lnc-SMUG1-7:1	9.32	downregulated in NF1 mutated patients
CUST_10191_PI427704219	lnc-DNASE1L3-1	lnc-DNASE1L3-1:1	9.29	downregulated in NF1 mutated patients
CUST_22391_PI427704219	lnc-CHODL-1	lnc-CHODL-1:1	8.99	downregulated in NF1 mutated patients
CUST_15349_PI427704219	lnc-ALDH1A3-1	lnc-ALDH1A3-1:1	8.41	downregulated in NF1 mutated patients
A_33_P3231923	lnc-VRK2-6	lnc-VRK2-6:1	7.56	downregulated in NF1 mutated patients
CUST_12713_PI427704219	lnc-VRK2-5	lnc-VRK2-5:5	7.25	downregulated in NF1 mutated patients
CUST_22847_PI427704219	lnc-USP16-5	lnc-USP16-5:1	7.25	downregulated in NF1 mutated patients
CUST_1340_PI427704219	lnc-NBPF20-1	lnc-NBPF20-1:1	7.08	downregulated in NF1 mutated patients
CUST_7661_PI427704219	lnc-USP25-2	lnc-USP25-2:8	7.01	downregulated in NF1 mutated patients
CUST_17748_PI427704219	lnc-ERLIN2-1	lnc-ERLIN2-1:1	6.60	downregulated in NF1 mutated patients
CUST_9189_PI427704219	lnc-TIGIT-2	lnc-TIGIT-2:5	6.47	downregulated in NF1 mutated patients
CUST_17279_PI427704219	lnc-FAM83B-2	lnc-FAM83B-2:1	6.07	downregulated in NF1 mutated patients
CUST_2876_PI427704219	lnc-COL4A1-1	lnc-COL4A1-1:1	5.95	downregulated in NF1 mutated patients
CUST_4141_PI427704219	lnc-OR4M2-2	lnc-OR4M2-2:1	5.86	downregulated in NF1 mutated patients
CUST_13615_PI427704219	lnc-FLRT2-2	lnc-FLRT2-2:9	5.76	downregulated in NF1 mutated patients
CUST_4747_PI427704219	lnc-DEA-1	lnc-DEA-1:1	5.25	downregulated in NF1 mutated patients
CUST_14959_PI427704219	lnc-FGF9-3	lnc-FGF9-3:4	5.24	downregulated in NF1 mutated patients
CUST_10790_PI427704219	lnc-TOMM20-2	lnc-TOMM20-2:9	5.14	downregulated in NF1 mutated patients
CUST_3980_PI427704219	lnc-PMEL-1	lnc-PMEL-1:1	5.14	downregulated in NF1 mutated patients
CUST_3500_PI427704219	lnc-PCF11-1	lnc-PCF11-1:5	5.08	downregulated in NF1 mutated patients
CUST_18421_PI427704219	lnc-RP11-43D2.2.1-10	lnc-RP11-43D2.2.1-10:1	4.94	downregulated in NF1 mutated patients
CUST_4758_PI427704219	lnc-CHL1-1	lnc-CHL1-1:2	4.89	downregulated in NF1 mutated patients
A_33_P3295543	lnc-AC110373.1-6	lnc-AC110373.1-6:1	4.75	downregulated in NF1 mutated patients
CUST_15210_PI427704219	lnc-SFT2D3-1	lnc-SFT2D3-1:1	4.74	downregulated in NF1 mutated patients
CUST_22931_PI427704219	lnc-MPHOSPH6-2	lnc-MPHOSPH6-2:2	4.68	downregulated in NF1 mutated patients
CUST_10965_PI427704219	lnc-KIAA1239-2	lnc-KIAA1239-2:1	4.61	downregulated in NF1 mutated patients
CUST_16890_PI427704219	lnc-NFRKB-1	lnc-NFRKB-1:1	4.54	downregulated in NF1 mutated patients
CUST_1642_PI427704219	lnc-ARHGEF7-2	lnc-ARHGEF7-2:1	4.51	downregulated in NF1 mutated patients
CUST_1667_PI427704219	lnc-NMNAT2-3	lnc-NMNAT2-3:1	4.40	downregulated in NF1 mutated patients
CUST_6893_PI427704219	lnc-ZPLD1-1	lnc-ZPLD1-1:1	4.35	downregulated in NF1 mutated patients
CUST_8897_PI427704219	lnc-OXCT1-1	lnc-OXCT1-1:8	4.32	downregulated in NF1 mutated patients

CUST_14772_PI427704219	lnc-FAM70A-1	lnc-FAM70A-1:8	4.27	downregulated in NF1 mutated patients
CUST_2103_PI427704219	lnc-LRRC4C-3	lnc-LRRC4C-3:2	4.25	downregulated in NF1 mutated patients
CUST_19174_PI427704219	lnc-DSCR8-1	lnc-DSCR8-1:2	4.15	downregulated in NF1 mutated patients
CUST_849_PI427704219	lnc-GLUD1-4	lnc-GLUD1-4:4	4.14	downregulated in NF1 mutated patients
CUST_10120_PI427704219	lnc-NAV3-1	lnc-NAV3-1:10	4.04	downregulated in NF1 mutated patients
CUST_22091_PI427704219	lnc-LARGE-1	lnc-LARGE-1:3	3.83	downregulated in NF1 mutated patients
CUST_14984_PI427704219	lnc-IGFBP1-5	lnc-IGFBP1-5:1	3.77	downregulated in NF1 mutated patients
CUST_11154_PI427704219	lnc-EGFL6-2	lnc-EGFL6-2:1	3.70	downregulated in NF1 mutated patients
CUST_2777_PI427704219	lnc-USP35-1	lnc-USP35-1:6	3.45	downregulated in NF1 mutated patients
CUST_5289_PI427704219	lnc-CHST8-1	lnc-CHST8-1:1	3.36	downregulated in NF1 mutated patients
CUST_6177_PI427704219	lnc-AC112715.2.1-3	lnc-AC112715.2.1-3:1	3.25	downregulated in NF1 mutated patients
CUST_20248_PI427704219	lnc-GPAT2-1	lnc-GPAT2-1:1	2.95	downregulated in NF1 mutated patients
CUST_12181_PI427704219	lnc-RP3-377D14.1.1-3	lnc-RP3-377D14.1.1-3:12	2.73	downregulated in NF1 mutated patients
CUST_5014_PI427704219	lnc-RP11-210M15.2.1-1	lnc-RP11-210M15.2.1-1:1	2.69	downregulated in NF1 mutated patients
CUST_3424_PI427704219	lnc-DIRAS2-2	lnc-DIRAS2-2:2	2.63	downregulated in NF1 mutated patients
CUST_5840_PI427704219	lnc-MORF4L1-1	lnc-MORF4L1-1:1	2.52	downregulated in NF1 mutated patients
CUST_7303_PI427704219	lnc-UMODL1-1	lnc-UMODL1-1:2	2.49	downregulated in NF1 mutated patients
CUST_6725_PI427704219	lnc-BCL2A1-1	lnc-BCL2A1-1:1	2.32	downregulated in NF1 mutated patients
CUST_10534_PI427704219	lnc-ATP6AP2-2	lnc-ATP6AP2-2:1	2.27	downregulated in NF1 mutated patients
CUST_3101_PI427704219	lnc-KIF20B-1	lnc-KIF20B-1:1	2.27	downregulated in NF1 mutated patients
CUST_5699_PI427704219	lnc-MARCH4-2	lnc-MARCH4-2:4	2.05	downregulated in NF1 mutated patients

**Differential expressed lncRNAs between JMML patients without mutations (quadruple negative) and with mutations**

Probe_Name	Gene_Name	Transcript	Fold change	Direction
CUST_6197_PI427704219	lnc-ATP10A-2	lnc-ATP10A-2:2	14.39	upregulated in quadruple negative patients

**Differential expressed lncRNAs between JMML patients with and without LIN28B overexpression**

Probe_Name	Gene_Name	Transcript	Fold change	Direction
CUST_15547_PI427704219	lnc-KCNA5-2	lnc-KCNA5-2:1	6.83	upregulated in LIN28B overexpression
CUST_3116_PI427704219	lnc-MDGA2-2	lnc-MDGA2-2:1	4.24	upregulated in LIN28B overexpression
CUST_6144_PI427704219	lnc-IFITM2-4	lnc-IFITM2-4:1	4.01	upregulated in LIN28B overexpression
CUST_12720_PI427704219	lnc-PCDH10-6	lnc-PCDH10-6:1	3.46	upregulated in LIN28B overexpression
CUST_17041_PI427704219	lnc-NUDCD2-5	lnc-NUDCD2-5:1	3.20	upregulated in LIN28B overexpression
CUST_4950_PI427704219	lnc-MECR-2	lnc-MECR-2:1	3.00	upregulated in LIN28B overexpression
CUST_19075_PI427704219	lnc-DLK1-6 (MEG8)	lnc-DLK1-6:9	2.99	upregulated in LIN28B overexpression
CUST_9091_PI427704219	lnc-FGGY-3	lnc-FGGY-3:1	2.80	upregulated in LIN28B overexpression
CUST_8964_PI427704219	lnc-IFITM2-3	lnc-IFITM2-3:3	2.78	upregulated in LIN28B overexpression
CUST_9920_PI427704219	lnc-RAD23B-8	lnc-RAD23B-8:1	2.56	upregulated in LIN28B overexpression
CUST_9991_PI427704219	lnc-EPST11-3	lnc-EPST11-3:2	2.48	upregulated in LIN28B overexpression
CUST_779_PI427704219	lnc-RP11-770G2.3.1-2	lnc-RP11-770G2.3.1-2:1	2.45	upregulated in LIN28B overexpression
CUST_19560_PI427704219	lnc-REG1B-4	lnc-REG1B-4:1	2.43	upregulated in LIN28B overexpression
A_33_P3352843	lnc-DRD5-1	lnc-DRD5-1:1	2.39	upregulated in LIN28B overexpression
CUST_15377_PI427704219	lnc-USP41-1	lnc-USP41-1:3	2.38	upregulated in LIN28B overexpression
CUST_1967_PI427704219	lnc-CCDC33-1	lnc-CCDC33-1:4	2.36	upregulated in LIN28B overexpression
CUST_21534_PI427704219	lnc-DLK1-8 (MEG8)	lnc-DLK1-8:6	2.33	upregulated in LIN28B overexpression
CUST_14852_PI427704219	lnc-EBF3-6	lnc-EBF3-6:1	2.32	upregulated in LIN28B overexpression
CUST_21215_PI427704219	lnc-C8orf22-2	lnc-C8orf22-2:2	2.25	upregulated in LIN28B overexpression
CUST_2867_PI427704219	lnc-F8A2-1	lnc-F8A2-1:2	2.25	upregulated in LIN28B overexpression
CUST_21827_PI427704219	lnc-TMTC3-5	lnc-TMTC3-5:1	2.21	upregulated in LIN28B overexpression
CUST_3317_PI427704219	lnc-PTPRC-2	lnc-PTPRC-2:1	2.20	upregulated in LIN28B overexpression
CUST_6947_PI427704219	lnc-DLK1-4 (MEG3)	lnc-DLK1-4:28	2.19	upregulated in LIN28B overexpression
CUST_16603_PI427704219	lnc-AC091435.1-2	lnc-AC091435.1-2:1	2.16	upregulated in LIN28B overexpression
CUST_17150_PI427704219	lnc-AGPAT2-2	lnc-AGPAT2-2:2	2.15	upregulated in LIN28B overexpression
CUST_18129_PI427704219	lnc-GALC-2	lnc-GALC-2:1	2.13	upregulated in LIN28B overexpression
CUST_15705_PI427704219	lnc-IGF1R-1	lnc-IGF1R-1:1	2.10	upregulated in LIN28B overexpression
A_33_P3399428	lnc-AL035696.1-1	lnc-AL035696.1-1:1	2.06	upregulated in LIN28B overexpression
CUST_5517_PI427704219	lnc-RP11-43D2.2.1-13	lnc-RP11-43D2.2.1-13:1	2.03	upregulated in LIN28B overexpression
CUST_15768_PI427704219	lnc-SRD5A1-1	lnc-SRD5A1-1:3	2.00	upregulated in LIN28B overexpression
CUST_19284_PI427704219	lnc-VRK2-5	lnc-VRK2-5:5	1.98	upregulated in LIN28B overexpression
CUST_21734_PI427704219	lnc-CLDN6-1	lnc-CLDN6-1:1	1.98	upregulated in LIN28B overexpression
CUST_1926_PI427704219	lnc-MYO16-1	lnc-MYO16-1:2	1.97	upregulated in LIN28B overexpression
CUST_10174_PI427704219	lnc-TMSB4X-1	lnc-TMSB4X-1:1	1.97	upregulated in LIN28B overexpression
CUST_9357_PI427704219	lnc-RP11-82I10.1.1-10	lnc-RP11-82I10.1.1-10:1	1.95	upregulated in LIN28B overexpression
CUST_8854_PI427704219	lnc-EEA1-1	lnc-EEA1-1:1	1.94	upregulated in LIN28B overexpression
CUST_14156_PI427704219	lnc-SLC16A9-1	lnc-SLC16A9-1:1	1.92	upregulated in LIN28B overexpression
CUST_13530_PI427704219	lnc-HACE1-3	lnc-HACE1-3:1	1.92	upregulated in LIN28B overexpression
CUST_4067_PI427704219	lnc-KCNIP1-1	lnc-KCNIP1-1:1	1.91	upregulated in LIN28B overexpression
CUST_7281_PI427704219	lnc-RHBG-1	lnc-RHBG-1:1	1.90	upregulated in LIN28B overexpression
CUST_15506_PI427704219	lnc-HEATR2-1	lnc-HEATR2-1:1	1.90	upregulated in LIN28B overexpression
CUST_1427_PI427704219	lnc-TSC22D1-2	lnc-TSC22D1-2:1	1.90	upregulated in LIN28B overexpression
CUST_11706_PI427704219	lnc-DAPK2-1	lnc-DAPK2-1:1	1.86	upregulated in LIN28B overexpression
CUST_21543_PI427704219	lnc-AC009113.1-1	lnc-AC009113.1-1:1	1.82	upregulated in LIN28B overexpression
CUST_7087_PI427704219	lnc-GBP6-1	lnc-GBP6-1:1	1.76	upregulated in LIN28B overexpression
CUST_3487_PI427704219	lnc-SERPINB6-2	lnc-SERPINB6-2:1	1.76	upregulated in LIN28B overexpression
CUST_9703_PI427704219	lnc-COL1A1-3	lnc-COL1A1-3:1	1.74	upregulated in LIN28B overexpression
CUST_14619_PI427704219	lnc-BTBD10-3	lnc-BTBD10-3:8	1.74	upregulated in LIN28B overexpression
CUST_18645_PI427704219	lnc-GLRX3-1	lnc-GLRX3-1:1	1.72	upregulated in LIN28B overexpression
CUST_13120_PI427704219	lnc-TNFRSF14-1	lnc-TNFRSF14-1:1	1.65	upregulated in LIN28B overexpression
CUST_11428_PI427704219	lnc-CLIC5-1	lnc-CLIC5-1:1	1.64	upregulated in LIN28B overexpression
CUST_7038_PI427704219	lnc-CCDC63-2	lnc-CCDC63-2:1	1.62	upregulated in LIN28B overexpression
CUST_11811_PI427704219	lnc-RBMY1B-1	lnc-RBMY1B-1:1	1.60	upregulated in LIN28B overexpression

CUST_1600_PI427704219	lnc-B3GAT2-3	lnc-B3GAT2-3:5	1.59	upregulated in <i>LIN28B</i> overexpression
CUST_3869_PI427704219	lnc-ZNF792-1	lnc-ZNF792-1:1	1.57	upregulated in <i>LIN28B</i> overexpression
CUST_3034_PI427704219	lnc-PPM1M-2	lnc-PPM1M-2:1	1.57	upregulated in <i>LIN28B</i> overexpression
CUST_4376_PI427704219	lnc-MTIF3-1	lnc-MTIF3-1:1	1.51	upregulated in <i>LIN28B</i> overexpression
CUST_5941_PI427704219	lnc-MBOAT1-1	lnc-MBOAT1-1:1	1.50	upregulated in <i>LIN28B</i> overexpression
CUST_12699_PI427704219	lnc-POU5F1B-3	lnc-POU5F1B-3:2	1.46	upregulated in <i>LIN28B</i> overexpression
CUST_177_PI427704219	lnc-SPAG16-4	lnc-SPAG16-4:4	1.44	upregulated in <i>LIN28B</i> overexpression
CUST_4703_PI427704219	lnc-ATP6V0D2-2	lnc-ATP6V0D2-2:1	1.49	downregulated in <i>LIN28B</i> overexpression

**Table S6. Univariate cox-regression analysis identified 45 individual lncRNAs highly associated with OS (P < 0.001) of which 7 remained significantly associated with OS after multivariate cox-regression analysis**

Probe_Name	Gene_Name	Transcript	Univariable analysis P value	Hazard Ratio	Multivariable analysis P value	multivariable cox regression coefficient
CUST_7072_PI427704219	lnc-EMB-3	lnc-EMB-3:1	0.0009695	3.30	0.00022	3.34
CUST_23004_PI427704219	lnc-NPFFR2-1	lnc-NPFFR2-1:1	2.98E-05	0.06	0.000312	-3.91
A_33_P3356004	UCKL1-AS1	UCKL1-AS1	0.0004982	5.88	0.00033	3.46
CUST_18306_PI427704219	lnc-RORB-1	lnc-RORB-1:1	0.000244	4.15	0.000356	2.35
CUST_8799_PI427704219	lnc-CCDC90A-2	lnc-CCDC90A-2:1	0.0003824	0.18	0.000382	-2.73
CUST_17294_PI427704219	lnc-ZSWIM2-3	lnc-ZSWIM2-3:2	0.0008804	0.34	0.00043	-1.98
CUST_10195_PI427704219	lnc-GPR63-5	lnc-GPR63-5:1	0.000539	0.20	0.000483	-3.91
CUST_14454_PI427704219	lnc-LTBP3-2	lnc-LTBP3-2:2	0.0002794	2.17	0.001125	1.66
CUST_2165_PI427704219	lnc-AC092329.1-1	lnc-AC092329.1-1:7	0.0005124	0.36	0.001271	-1.74
CUST_22423_PI427704219	lnc-ADAMTS18-1	lnc-ADAMTS18-1:1	0.0007328	4.95	0.0014	2.75
CUST_11044_PI427704219	lnc-LGALS12-1	lnc-LGALS12-1:1	0.000685	3.20	0.002	2.07
CUST_20656_PI427704219	lnc-SSPN-2	lnc-SSPN-2:1	0.0003888	0.20	0.002	-2.02
CUST_6103_PI427704219	lnc-RBFA-1	lnc-RBFA-1:6	0.0008208	2.04	0.002	1.04
CUST_6951_PI427704219	lnc-LTBP3-2	lnc-LTBP3-2:1	0.0002415	2.17	0.002	1.66
CUST_18748_PI427704219	lnc-ZNF705A-3	lnc-ZNF705A-3:1	0.0001577	0.18	0.003	-2.42
CUST_6691_PI427704219	lnc-DLX2-4	lnc-DLX2-4:3	0.0002644	4.18	0.004	1.92
CUST_9721_PI427704219	lnc-CCDC54-2	lnc-CCDC54-2:13	0.0007596	0.10	0.004	-4.59
CUST_11426_PI427704219	lnc-C10orf122-1	lnc-C10orf122-1:8	0.0002535	0.19	0.005	-2.12
CUST_15250_PI427704219	lnc-MAP3K9-1	lnc-MAP3K9-1:1	0.0009221	2.87	0.005	1.56
CUST_16645_PI427704219	lnc-MAGOHB-1	lnc-MAGOHB-1:1	6.86E-05	0.12	0.005	-2.90
CUST_19983_PI427704219	lnc-SLC39A11-1	lnc-SLC39A11-1:9	0.0007306	6.48	0.005	2.33
CUST_4074_PI427704219	lnc-CHD9-3	lnc-CHD9-3:2	0.0003856	0.09	0.005	-4.25
CUST_15563_PI427704219	lnc-BHLHE41-2	lnc-BHLHE41-2:8	3.00E-04	0.33	0.006	-1.22
CUST_17494_PI427704219	lnc-CTD-2215E18.1.1-3	lnc-CTD-2215E18.1.1-3:2	0.0007635	0.17	0.006	-2.16
CUST_3967_PI427704219	lnc-AP002478.1-5	lnc-AP002478.1-5:4	0.0005319	0.34	0.006	-1.48
CUST_12049_PI427704219	lnc-ZNF621-1	lnc-ZNF621-1:1	0.000724	0.20	0.007	-2.16
CUST_11202_PI427704219	lnc-KPNA4-1	lnc-KPNA4-1:1	0.0006298	0.19	0.008	-2.01
CUST_12064_PI427704219	lnc-ADAM10-1	lnc-ADAM10-1:1	0.0001414	0.14	0.009	-2.01
CUST_2532_PI427704219	lnc-TM4SF20-1	lnc-TM4SF20-1:2	0.0002587	0.19	0.013	-3.06
CUST_2736_PI427704219	lnc-SUCLA2-2	lnc-SUCLA2-2:1	0.0006559	0.12	0.013	-2.48
CUST_21428_PI427704219	lnc-TSPAN1-1	lnc-TSPAN1-1:1	0.0009304	0.11	0.016	-1.96
CUST_6330_PI427704219	lnc-PRDM11-3	lnc-PRDM11-3:5	0.0007775	0.26	0.018	-1.40
CUST_15280_PI427704219	lnc-ZNF146-1	lnc-ZNF146-1:3	0.0004744	0.22	0.024	-1.96
CUST_21120_PI427704219	lnc-ILKAP-1	lnc-ILKAP-1:1	0.0005869	6.56	0.038	1.59
CUST_9418_PI427704219	lnc-CAMK1G-5	lnc-CAMK1G-5:4	0.0007238	0.21	0.046	-1.97
CUST_11683_PI427704219	lnc-CSF1-2	lnc-CSF1-2:1	0.0005065	0.10	0.05	-2.18
CUST_8316_PI427704219	lnc-IRX3-4	lnc-IRX3-4:17	0.0009392	0.19	0.056	-2.21
CUST_198_PI427704219	lnc-SLC25A26-3	lnc-SLC25A26-3:1	0.0009091	0.25	0.061	-1.88
CUST_19807_PI427704219	lnc-HNRNPC-1	lnc-HNRNPC-1:2	0.0008673	0.44	0.064	-0.70
CUST_15679_PI427704219	lnc-PACRGL-2	lnc-PACRGL-2:1	0.0009861	0.22	0.065	-1.55
CUST_19636_PI427704219	lnc-CPEB4-6	lnc-CPEB4-6:1	0.0009302	0.17	0.07	-1.70
CUST_4180_PI427704219	lnc-MEF2A-1	lnc-MEF2A-1:1	0.0008235	0.36	0.077	-1.06
CUST_12140_PI427704219	lnc-GNG11-2	lnc-GNG11-2:2	0.0006439	0.23	0.098	-1.44
CUST_1378_PI427704219	lnc-FGF10-3	lnc-FGF10-3:4	0.0005511	0.09	0.103	-1.87
CUST_6745_PI427704219	lnc-CDC42EP1-1	lnc-CDC42EP1-1:1	0.0009891	1.73	0.138	0.86