The Maternal Embryonic Leucine Zipper Kinase (MELK) is Upregulated in High-Grade Prostate Cancer

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Supplementary methods:

Tissue specimens and clinical data

Immediately after surgery, the prostate specimens were rapidly processed for histopathological analysis and stored in Tissue-Tek OCT (Sakura, Alphen, Netherlands), embedded cryo-blocks at -80°C or in paraffin-embedded formalin-fixed tissue blocks (FFPE) at room temperature, respectively. RNA samples were isolated from paired tumor and non-malignant (benign) tissue samples from a radical prostatectomy cohort with Gleason scores (GS) between 6 and 10 (Table 1).

All tumor and control areas were assigned by an experienced uropathologist (G.S.) who used a HE stained section for selecting appropriate tissue regions. Non-malignant, benign areas were chosen well separated from tumor areas. Several 10 µm cryo- or FFPE sections were prepared and the assigned tissue was collected by macrodissection using the HE stain as a template. Detailed clinical data are given in Supplementary Table 1.

To this day the Gleason score reflecting the histomorphological pattern and degree of dedifferentiation of prostate tumors is the gold standard of prostate cancer categorization and the best available single parameter for estimation of the risk for progression and worse prognosis [1, 2]. The Gleason system categorizes prostate tumors according to the histomorphological pattern such as loss of a differentiated glandular structure into Gleason patterns (GP) 1 (fully differentiated) to 5 (fully dedifferentiated). The Gleason Score is formed by the sum of the most (primary) and the second most (secondary) predominant Gleason patterns of a tumor and ranges from 2 to 10 [3, 4].

The criteria on PSA-density, biopsy Gleason Score and tumor extension defined by Epstein were used to assign tumor cases into clinically significant and insignificant groups [5-7]. Patients with an ERG gene rearrangement were assessed using a FISH break-apart assay [8]. Alternative approaches for tumor classification risk groups are based on genetic alterations, above all the TEMPRSS2-ERG gene rearrangement that is found in about 50% of all prostate tumors [9, 10].

Western blotting

The following primary antibodies were used: Anti-MELK (HPA017214, Sigma), Anti-UBE2C (ab56861, Abcam, Cambridge, UK), Anti-FOXM1 (ab55006, Abcam), Anti-CDC20 (4823, Cell Signaling, Danvers, MA, USA) Anti-AURKA (HPA002636, Sigma), Anti-AR (sc-816, Santa Cruz), Anti-pAKT (9271, Cell Signaling), Anti-Tubulin, alpha (2144, Cell Signaling, Loading control).

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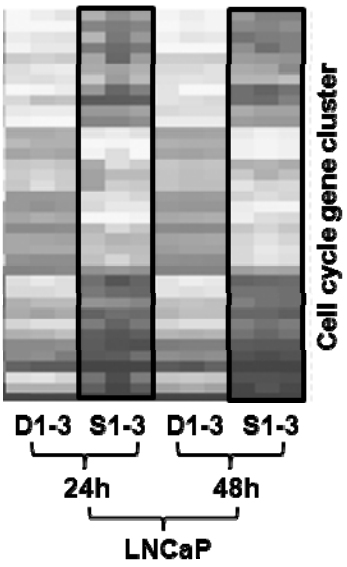
Supplementary Figure 1: Microarray analysis of Siomycin A treated LNCaP indicates specific pattern of responsive genes. Siomycin A treated cells (biological triplicates, S1-3) are compared to DMSO controls (C1-3) for two time points. Here, expression of 33 cell cycle genes coexpressed with MELK and upregulated in aggressive prostate cancer is visualized by hierarchical clustering. In LNCaP cells the majority of these genes (25 out of 33) were downregulated after 24h and 48h Siomycin A treatment.



Supplementary Tables:

Supplementary data is given for detailed lists of differentially expressed genes, ontology statistics and assay information. For Illumina data universal probe ID (Ref ID) is given in all gene lists including statistical analysis outcome (LIMMA software, p-value, linear fold change). Gene ontology statistics was done using GOstat software for down- and upregulated genes, respectively. Results were only documented if significant biological processes were associated with these genes.

Supplementary Table 1: Patient characteristics for microarray screening and FFPE validation in detail.

Screening cohort

Sample_ID	Tissue Type	Gleason groups	RPE GS	RPE GP1	RPE GP2	pT	N	M	R	Epstein Criteria	Fusion Status	Age	PSA Biopsy	free PSA% Biopsy	Prostate Weight	Biopsy GS	Biopsy GP1	Biopsy GP2	Biopsy Volume	Biopsy % pos. Cores	Biopsy PSA Density	Tissue Slide GS	Tissue Slide GP1	Tissue Slide GP2	Chip ID
DKFZ_17	Cancer	low	4	2	2	2a	x	x	0	insignificant	No	61	9.37	18	80	6	3	3	97	6.67	0.09699793	8	4	4	4403827060
DKFZ_91	Cancer	low	5	3	2	2a	x	x	0	insignificant	yes	70	3.18	11.2	41	6	3	3	30	6.66666667	0.106	5	3	2	4403827054
DKFZ_84	Cancer	low	6	3	3	2c	x	x	0	insignificant	No	65	2.61	14.6	28	6	3	3	29	6.66666667	0.09	6	3	3	4405718016
DKFZ_78	Cancer	low	6	3	3	2c	0	0	1	significant	No	59	2.03	31	27	7	3	4	25	10	0.0812	6	3	3	4405718016
DKFZ_46	Cancer	low	6	3	3	2c	0	x	0	significant	yes	53	4.93	21	38	7	3	4	N/A	37.5	N/A	6	3	3	4405718004
DKFZ_13	Cancer	low	7	3	4	2c	0	x	0	significant	NA	62	10.1	6.3	27	6	4	2	18	30	0.56111111	7	3	4	4403827060
DKFZ_87	Cancer	low	7	3	4	3b	0	x	0	significant	N/A	66	16.9	N/A	30	7	3	4	37	40	0.45675676	7	3	4	4405718016
DKFZ_101	Cancer	low	7	3	4	2c	x	x	1	insignificant	No	59	7.68	14.7	48	6	3	3	55	33.3333333	0.13963636	7	3	4	4403827077
DKFZ_64	Cancer	low	7	3	4	2c	x	x	0	insignificant	No	66	6.6	13	68	6	3	3	51	20	0.12941176	6	3	3	4405718005
DKFZ_69	Cancer	low	7	3	4	3a	x	x	1	insignificant	No	63	3.19	16.6	30	6	3	3	45	6.66666667	0.07088889	7	3	4	4405718005
DKFZ_61	Cancer	low	7	3	4	2c	x	x	0	N/A	No	50	2.19	7.2	20	6	3	3	N/A	N/A	N/A	7	3	4	4405718006
DKFZ_03	Cancer	low	7	3	4	2c	x	x	1	significant	No	45	7.72	8	17	6	3	3	17	46.6666667	0.45411765	7	3	4	4405718054
DKFZ_14	Cancer	low	7	3	4	3b	x	x	1	significant	No	66	4.96	17	55	7	3	4	48	66.6666667	0.10333333	7	3	4	4403827060
DKFZ_54	Cancer	low	7	3	4	3a	0	x	0	significant	No	65	7.9	N/A	21	7	3	4	45	60	N/A	7	3	4	4405718006
DKFZ_58	Cancer	low	7	3	4	2c	0	x	1	significant	No	67	7.5	N/A	32	6	3	3	56	50	0.13392857	7	3	4	4405718006
DKFZ_16	Cancer	low	7	3	4	2a	x	x	0	insignificant	yes	42	1.47	16.2	24	6	3	3	N/A	12.5	N/A	6	3	3	4403827060
DKFZ_19	Cancer	low	7	3	4	2a	x	x	0	insignificant	yes	57	2.92	11	27	6	3	3	N/A	33.3333333	N/A	7	3	4	4403827060
DKFZ_37	Cancer	low	7	3	4	3a	x	x	0	insignificant	yes	68	5.52	13	32	6	3	3	30	8.33333333	0.184	7	3	4	4405718014
DKFZ_10	Cancer	low	7	3	4	3a	x	x	0	significant	yes	62	5.4	N/A	23	7	3	4	N/A	80	N/A	7	3	4	4405718054
DKFZ_12	Cancer	low	7	3	4	2c	x	x	0	significant	yes	55	3.15	14	24	6	2	4	23	16.6666667	0.14	7	3	4	4405718054
DKFZ_25	Cancer	low	7	3	4	2c	x	x	1	significant	yes	65	5.63	15.1	32	6	3	3	28	14.2857143	0.20107143	7	3	4	4403827060
DKFZ_36	Cancer	low	7	3	4	3a	0	x	1	significant	yes	75	7.8	24.4	57	7	3	4	50	76.9230769	0.156	7	3	4	4405718014
DKFZ_43	Cancer	low	7	3	4	3a	x	x	0	significant	yes	52	4.51	N/A	26	6	3	3	N/A	83.3333333	N/A	6	3	3	4405718004
DKFZ_44	Cancer	low	7	3	4	2b	0	x	0	significant	yes	56	29.2	8	50	7	3	4	33	53.3333333	0.88484848	7	3	4	4405718004
DKFZ_48	Cancer	low	7	3	4	3a	0	x	1	significant	yes	61	9.91	18.5	27	7	3	4	26	73.3333333	0.38115385	7	3	4	4405718004
DKFZ_50	Cancer	low	7	3	4	2c	x	x	0	significant	yes	62	5.57	30.3	30	6	3	3	32	18.75	0.1740625	7	3	4	4405718004
DKFZ_57	Cancer	low	7	3	4	2c	x	x	0	significant	yes	70	5.8	5.8	25	6	3	3	30	46.6666667	0.19333333	7	3	4	4405718006
DKFZ_62	Cancer	low	7	3	4	2c	0	x	1	significant	yes	57	9.85	7.6	55	6	3	3	35	N/A	0.28142857	7	3	4	4405718006
DKFZ_63	Cancer	low	7	3	4	3a	0	x	1	significant	yes	55	14.11	6.5	34	6	3	3	35	13.3333333	0.40314286	7	3	4	4405718006
DKFZ_70	Cancer	low	7	3	4	2a	0	x	0	significant	yes	61	4.25	N/A	35	7	3	4	N/A	36.3636364	N/A	7	3	4	4405718005
DKFZ_77	Cancer	low	7	3	4	2c	x	x	1	significant	yes	59	6.8	14.2	35	7	3	4	N/A	N/A	N/A	6	3	3	4405718016
DKFZ_96	Cancer	low	7	3	4	2c	x	x	1	significant	yes	67	5.1	N/A	35	7	3	4	34	N/A	0.15	7	3	4	4403827054
DKFZ_02	Cancer	high	7	4	3	3a	0	x	1	significant	No	69	5.68	9.9	32	7	3	4	34	33.3333333	0.16705882	7	4	3	4405718054
DKFZ_05	Cancer	high	7	4	3	2c	0	x	1	significant	No	55	12.13	1.42	35	5	2	3	N/A	66.6666667	N/A	7	4	3	4405718054
DKFZ_28	Cancer	high	7	4	3	3a	x	x	1	significant	No	69	3.39	12	35	7	3	4	30	60	0.113	7	4	3	4405718014
DKFZ_39	Cancer	high	7	4	3	2c	0	x	0	significant	No	49	9.6	7.3	22	7	4	3	N/A	70	N/A	7	4	3	4405718014
DKFZ_40	Cancer	high	7	4	3	3b	x	x	1	significant	No	71	4.18	10.53	51	8	3	5	45	40	0.09288889	7	3	4	4405718004
DKFZ_41	Cancer	high	7	4	3	3a	x	x	1	significant	No	63	3.14	12.8	N/A	7	3	4	N/A	20	N/A	7	4	3	4405718004
DKFZ_65	Cancer	high	7	4	3	2c	0	x	0	significant	No	55	3.97	17.1	40	8	4	4	41	26.6666667	0.09682927	7	4	3	4405718005
DKFZ_86	Cancer	high	7	4	3	2c	0	x	0	significant	No	58	14.6	6.8	27	7	3	4	21	46.6666667	0.6952381	7	4	3	4405718016
DKFZ_11	Cancer	high	7	4	3	3b	0	x	1	significant	yes	61	5.22	8.6	25	7	4	3	20	50	0.261	7	4	3	4405718054
DKFZ_74	Cancer	high	7	4	3	3a	x	x	0	significant	yes	58	11.02	14.7	N/A	7	4	3	45	35.2941176	0.24488889	7	4	3	4405718005
DKFZ_75	Cancer	high	7	4	3	2c	x	x	0	significant	yes	61	8.72	10.7	30	6	3	3	26	25	0.33538462	7	4	3	4405718005
DKFZ_95	Cancer	high	7	4	3	2c	x	x	0	significant	yes	67	4.29	12.1	32	6	3	3	28	0	0.15321429	7	4	3	4403827054
DKFZ_102	Cancer	high	8	3	5	3b	0	0	0	significant	No	69	1.35	23.1	48	8	3	5	70	66.6666667	0.01928571	8	3	5	4403827077
DKFZ_81	Cancer	high	8	4	4	3a	x	x	1	significant	yes	66	5.98	8.5	35	5	0	0	N/A	0	N/A	8	4	4	4405718016
DKFZ_107	Cancer	high	9	4	5	2c	0	x	0	significant	No	68	8.4	N/A	28	8	4	4	30	20	0.28	9	4	5	4403827077
DKFZ_79	Cancer	high	9	4	5	3b	0	x	1	significant	No	69	13.7	N/A	37	7	3	4	63	86.6666667	0.21746032	9	4	5	4405718016
DKFZ_88	Cancer	high	9	4	5	3b	x	x	0	significant	No	72	16.21	26.1	33	6	3	3	30	66.6666667	0.54033333	9	4	5	4403827054
DKFZ_90	Cancer	high	9	4	5	2c	0	x	0	significant	No	67	9.1	8	40	6	3	3	30	N/A	0.30333333	9	4	5	4403827054
DKFZ_53	Cancer	high	9	4	5	2c	0	x	0	significant	yes	70	11.24	N/A	35	9	4	5	N/A	100	N/A	7	3	4	4405718006
DKFZ_80	Cancer	high	9	4	5	3a	0	x	0	significant	yes	64	9.1	10.2	85	9	4	5	47	50	0.19361702	9	4	5	4405718016
DKFZ_98	Cancer	high	9	4	5	2c	x	x	1	significant	yes	61	1.97	15	38	7	3	4	30	12.5	0.06566667	9	4	5	4403827054
DKFZ_99	Cancer	high	9	4	5	3b	0	x	1	significant	yes	63	4.67	11.6	26	8	3	5	27	60	0.17296296	9	4	5	4403827054
DKFZ_103	Cancer	high	9	5	4	4	0	x	1	significant	No	46	21.64	N/A	40	8	4	4	40	87.5	0.541	9	5	4	4403827077
DKFZ_108	Cancer	high	9	5	4	3a	x	x	0	significant	No	54	5.44	12.5	15	7	4	3	26	26.6666667	0.20923077	9	5	4	4403827077
DKFZ_56	Cancer	high	9	5	4	3b	x	x	1	significant	yes	66	8.6	N/A	70	6	3	3	80	37.5	0.107875	9	5	4	4405718006
DKFZ_89	Cancer	high	9	5	4	3b	1	x	1	significant	yes	52	15.2	12	44	8	5	3	30	66.6666667	0.50666667	9	5	4	4403827054
DKFZ_93	Cancer	high	10	5	5	3b	x	x	1	significant	yes	65	9.41	9.8	35	7	3	4	25	80	0.3764	10	5	5	4403827054
DKFZ_01	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718054
DKFZ_04	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718054
DKFZ_06	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718054
DKFZ_07	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718054

DKFZ_08	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	69	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718054
DKFZ_09	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	69	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718054
DKFZ_15	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4403827060
DKFZ_18	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	55	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4403827060
DKFZ_24	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4403827060
DKFZ_27	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4403827060
DKFZ_31	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718014
DKFZ_32	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718014
DKFZ_33	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	69	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718014
DKFZ_34	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718014
DKFZ_35	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	65	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718014
DKFZ_38	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718014
DKFZ_45	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718004
DKFZ_47	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718004
DKFZ_49	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	65	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718004
DKFZ_51	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	42	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718004
DKFZ_52	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	55	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718006
DKFZ_60	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	55	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718006
DKFZ_67	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718005
DKFZ_68	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718005
DKFZ_71	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	66	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718005
DKFZ_72	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718005
DKFZ_73	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718005
DKFZ_76	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718016
DKFZ_82	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	65	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718016
DKFZ_83	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718016
DKFZ_85	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4405718016
DKFZ_92	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4403827054
DKFZ_94	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	69	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4403827054
DKFZ_97	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4403827054
DKFZ_100	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4403827077
DKFZ_104	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	72	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4403827077
DKFZ_105	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4403827077
DKFZ_106	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4403827077
DKFZ_109	Benign	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4403827077

Validation cohort

Sample_ID	Tissue Type	Gleason gr	PE G	PE G	PE GP	E GP	pT	pN	pM	R	Epstein Criteria	Fusion S	Age	PSA	Bio	free PSA	% f	Prostate V	Biopsy G	Biopsy G	Biopsy GP	Biopsy GP	Biopsy Vo	Biopsy % pos	Biopsy PSA D	sue Slide	sue Slide	sue Slide G	sue Slide GP2
Val_1	tumor and benign	high	8	3	5	2c	x	x	0	N/A	N/A	58	4.63	7	28	6	3	3	24	20	0.19291667	N/A	N/A	N/A	
Val_2	tumor and benign	low	5	3	2	2c	x	x	0	N/A	N/A	61	9.24	17	68	6	3	3	80	6.66666667	0.1155	N/A	N/A	N/A	
Val_3	tumor and benign	high	8	3	5	2c	x	x	0	N/A	N/A	65	7.8	12	35	7	3	4	30	33.3333333	0.26	N/A	N/A	N/A	
Val_4	tumor and benign	low	6	3	3	2c	x	x	0	N/A	N/A	59	6.44	11	40	6	3	3	60	13.3333333	0.10733333	N/A	N/A	N/A	
Val_5	tumor and benign	high	8	5	3	2c	0	x	0	N/A	N/A	66	4.63	8	28	9	5	4	20	6.66666667	0.2315	N/A	N/A	N/A	
Val_6	tumor and benign	high	9	5	4	3a	0	0	0	N/A	N/A	71	8.23	18	35	10	5	5	30	60	0.27433333	N/A	N/A	N/A	
Val_7	tumor and benign	high	8	3	5	2c	x	x	0	N/A	N/A	61	2.52	11	28	7	4	3	34	6.66666667	0.07411765	N/A	N/A	N/A	
Val_8	tumor and benign	high	7	4	3	2c	x	x	1	N/A	N/A	56	6.66	16	34	6	3	3	60	20	0.111	N/A	N/A	N/A	
Val_9	tumor and benign	low	6	3	3	2a	x	x	0	N/A	N/A	59	4.21	12		6	3	3	28	40	0.15035714	N/A	N/A	N/A	
Val_10	tumor and benign	low	5	2	3	3a	0	x	0	N/A	N/A	56	5.03	11	35	4	2	2	38	6.25	0.13236842	N/A	N/A	N/A	
Val_11	tumor and benign	high	7	4	3	2c	x	x	0	N/A	N/A	60	2.5	14	24	6	3	3	29	33.3333333	0.0862069	N/A	N/A	N/A	
Val_12	tumor and benign	low	7	3	4	3a	0	x	1	N/A	N/A	68	5.8	12	39	7	3	4	22	10	0.26363636	N/A	N/A	N/A	
Val_13	tumor and benign	low	7	3	4	2c	0	x	0	N/A	N/A	57	8.2	12	35	6	3	3	25	41.6666667	0.328	N/A	N/A	N/A	
Val_14	tumor and benign	low	7	3	4	2b	0	x	1	N/A	N/A	72	7.79	17	30	7	4	3	21	60	0.37095238	N/A	N/A	N/A	
Val_15	tumor and benign	high	8	3	5	3a	0	x	0	N/A	N/A	59	2.31	16	27	8	4	4	24	53.3333333	0.09625	N/A	N/A	N/A	
Val_16	tumor and benign	low	7	3	4	2c	x	x	1	N/A	N/A	57	1.6	17	25	7	3	4	30	26.6666667	0.05333333	N/A	N/A	N/A	
Val_17	tumor and benign	low	6	3	3	2c	x	x	0	N/A	N/A	52	2.04	13	32	7	3	4	36	26.6666667	0.05666667	N/A	N/A	N/A	
Val_18	tumor and benign	low	6	3	3	2c	x	x	0	N/A	N/A	56	3.19	13	26	6	3	3	23	10	0.13869565	N/A	N/A	N/A	
Val_19	tumor and benign	low	5	3	2	2a	x	x	0	N/A	N/A	52	4.9	13	28	6	3	3	23	6.66666667	0.21304348	N/A	N/A	N/A	
Val_20	tumor and benign	high	8	3	5	2a	0	x	0	N/A	N/A	57	3.68	12	28	8	3	5	35	66.6666667	0.10514286	N/A	N/A	N/A	
Val_21	tumor and benign	low	5	2	3	2c	0	x	0	N/A	N/A	68	16.45	24	125	7	3	4	75	6.66666667	0.21933333	N/A	N/A	N/A	
Val_22	tumor and benign	low	7	3	4	2c	x	x	1	N/A	N/A	67	7.11	10	24	6	3	3	30	13.3333333	0.237	N/A	N/A	N/A	
Val_23	tumor and benign	high	8	3	5	2c	x	x	1	N/A	N/A	57	6.28	12	35	6	3	3	61	6.66666667	0.10295082	N/A	N/A	N/A	
Val_24	tumor and benign	low	7	3	4	2c	x	x	0	N/A	N/A	71	6.6	18	32	6	3	3	62	6.66666667	0.10645161	N/A	N/A	N/A	
Val_25	tumor and benign	low	5	3	2	2c	0	x	0	N/A	N/A	61	5.8	15	47	6	3	3	39	10	0.14871795	N/A	N/A	N/A	
Val_26	tumor and benign	low	6	3	3	2b	0	x	0	N/A	N/A	52	2.9	15	25	6	3	3	20	20	0.145	N/A	N/A	N/A	
Val_27	tumor and benign	low	6	3	3	2c	0	x	0	N/A	N/A	68	4.1	14		6	3	3	17	18.1818182	0.24117647	N/A	N/A	N/A	
Val_28	tumor and benign	high	9	4	5	2c	x	x	1	N/A	N/A	62	3.46	28	36	6	3	3	42	20	0.08238095	N/A	N/A	N/A	
Val_29	tumor and benign	low	7	3	4	2a	0	x	0	N/A	N/A	52	6	9	40	7	3	4	18	20	0.33333333	N/A	N/A	N/A	
Val_30	tumor and benign	high	7	4	3	2c	0	x	0	N/A	N/A	58	12.4	15	70	6	3	3	50	18.1818182	0.248	N/A	N/A	N/A	
Val_31	tumor and benign	low	7	3	4	3a	0	x	0	N/A	N/A	73	4.6	17		7	3	4	22	10	0.20909091	N/A	N/A	N/A	

Val_32	tumor and benign	low	7	3	4	2c	x	x	0	N/A	N/A	50	9.9	10	36	7	3	4	18	60	0.55	N/A	N/A	N/A
Val_33	tumor and benign	low	5	3	2	2c	x	x	0	N/A	N/A	60	3.9	16	25	6	3	3	29	20	0.13448276	N/A	N/A	N/A
Val_34	tumor and benign	low	5	3	2	2c	x	x	0	N/A	N/A	67	9.03	15	38	6	3	3	40	26.6666667	0.22575	N/A	N/A	N/A
Val_35	tumor and benign	low	5	3	2	2c	x	x	0	N/A	N/A	55	4	10	45	6	3	3	46	6.66666667	0.08695652	N/A	N/A	N/A
Val_36	tumor and benign	low	6	3	3	2c	x	x	0	N/A	N/A	61	3.5	15	30	6	3	3	30	40	0.11666667	N/A	N/A	N/A
Val_37	tumor and benign	low	6	3	3	2a	x	x	0	N/A	N/A	56	2.8	15	34	6	3	3	28	6.66666667	0.1	N/A	N/A	N/A
Val_38	tumor and benign	low	6	3	3	2c	x	x	1	N/A	N/A	61	10.78	7	45	6	3	3	50	6.66666667	0.2156	N/A	N/A	N/A
Val_39	tumor and benign	low	7	3	4	2c	0	x	x	N/A	N/A	59	9	10	42	6	3	3	27	20	0.33333333	N/A	N/A	N/A
Val_40	tumor and benign	low	6	3	3	2c	0	x	0	N/A	N/A	54	7.8	10	32	6	3	3	17	50	0.45882353	N/A	N/A	N/A
Val_41	tumor and benign	low	5	3	2	2c	0	x	0	N/A	N/A	58	7.9	9	40	5	2	3	25	10	0.316	N/A	N/A	N/A
Val_42	tumor and benign	low	6	3	3	2a	0	x	0	N/A	N/A	65	2.1	18	55	6	3	3	42	20	0.05	N/A	N/A	N/A
Val_43	tumor and benign	low	5	2	3	2c	0	x	0	N/A	N/A	57	2.6	12		7	3	4	20	20	0.13	N/A	N/A	N/A
Val_44	tumor and benign	low	7	3	4	2c	x	x	1	N/A	N/A	63	3.77	17	30	7	3	4	42	26.6666667	0.0897619	N/A	N/A	N/A
Val_45	tumor and benign	low	6	3	3	2c	x	x	0	N/A	N/A	64	3.64	14	48	6	3	3	50	6.66666667	0.0728	N/A	N/A	N/A
Val_46	tumor and benign	low	6	3	3	2c	x	x	0	N/A	N/A	64	4.27	15	30	6	3	3	35	6.66666667	0.122	N/A	N/A	N/A
Val_47	tumor and benign	low	6	3	3	2c	0	x	0	N/A	N/A	49	5.3	6	20	5	2	3	17	30	0.31176471	N/A	N/A	N/A
Val_48	tumor and benign	low	5	2	3	2c	0	x	0	N/A	N/A	62	5.4	12	47	5	2	3	39	2.85714286	0.13846154	N/A	N/A	N/A
Val_49	tumor and benign	low	6	3	3	2c	0	x	0	N/A	N/A	52	3.6	14	44	6	3	3	28	50	0.12857143	N/A	N/A	N/A
Val_50	tumor and benign	low	5	3	2	2c	x	x	0	N/A	N/A	57	4.88	12	30	6	3	3	40	6.66666667	0.122	N/A	N/A	N/A
Val_51	tumor and benign	low	5	3	2	2c	0	x	0	N/A	N/A	54	4.2	22	37	6	3	3	30	10	0.14	N/A	N/A	N/A
Val_52	tumor and benign	high	9	4	5	3a	0	x	0	N/A	N/A	67	6.91	6	27	7	3	4	20	46.6666667	0.3455	N/A	N/A	N/A
Val_53	tumor and benign	low	6	3	3	2a	0	x	0	N/A	N/A	48	2	10		6	3	3	22	20	0.09090909	N/A	N/A	N/A
Val_54	tumor and benign	low	7	3	4	3a	0	x	0	N/A	N/A	59	2.1	16	20	6	3	3	20	18.1818182	0.105	N/A	N/A	N/A
Val_55	tumor and benign	low	6	3	3	3a	0	x	0	N/A	N/A	56	3.1	5	32	6	3	3	17	30	0.18235294	N/A	N/A	N/A
Val_56	tumor and benign	low	6	3	3	2c	0	x	1	N/A	N/A	55	8.3	6		4	2	2	29	10	0.2862069	N/A	N/A	N/A
Val_57	tumor and benign	high	9	4	5	3a	x	x	0	N/A	N/A	65	2.65	17	30	6	3	3	39	6.66666667	0.06794872	N/A	N/A	N/A
Val_58	tumor and benign	low	5	2	3	2b	0	x	0	N/A	N/A	57	8.2	11		6	3	3	31	30	0.26451613	N/A	N/A	N/A
Val_59	tumor and benign	low	5	2	3	2b	0	x	0	N/A	N/A	50	4.5	13	48	6	3	3	24	33.3333333	0.1875	N/A	N/A	N/A
Val_60	tumor and benign	low	6	3	3	2b	x	x	0	N/A	N/A	63	6.28	6	32	6	3	3	28	6.66666667	0.22428571	N/A	N/A	N/A
Val_61	tumor and benign	low	5	3	2	2c	x	x	0	N/A	N/A	68	7.27	40	70	6	3	3	53	26.6666667	0.13716981	N/A	N/A	N/A
Val_62	tumor and benign	high	7	4	3	3a	0	x	0	N/A	N/A	67	6.1	20	30	7	3	4	25	46.6666667	0.244	N/A	N/A	N/A
Val_63	tumor and benign	low	7	3	4	2c	x	x	0	N/A	N/A	60	2.2	10	30	6	3	3	28	6.66666667	0.07857143	N/A	N/A	N/A
Val_64	tumor and benign	low	7	3	4	3a	0	x	1	N/A	N/A	60	6.45	10	31	6	3	3	25	66.6666667	0.258	N/A	N/A	N/A
Val_65	tumor and benign	high	8	4	4	3b	x	x	1	N/A	N/A	68	20.75	10	60	6	3	3	50	13.3333333	0.415	N/A	N/A	N/A
Val_66	tumor and benign	high	9	5	4	3b	0	x	0	N/A	N/A	67	5.9	15	61	7	4	3	28	40	0.21071429	N/A	N/A	N/A
Val_67	tumor and benign	low	5	2	3	2b	0	x	0	N/A	N/A	67	8.5	15	62	4	2	2	47	14.2857143	0.18085106	N/A	N/A	N/A
Val_68	tumor and benign	low	6	3	3	2b	x	x	0	N/A	N/A	69	7.3	13		6	3	3	26	11.1111111	0.28076923	N/A	N/A	N/A
Val_69	tumor and benign	low	7	3	4	2a	0	x	0	N/A	N/A	53	2.2	11	40	6	3	3	25	10	0.088	N/A	N/A	N/A
Val_70	tumor and benign	low	5	2	3	2b	0	x	0	N/A	N/A	57	6.2	13		7	3	4	40	30	0.155	N/A	N/A	N/A
Val_71	tumor and benign	high	9	4	5	3b	x	x	1	N/A	N/A	72	18.09	9	53	8	3	5	40	26.6666667	0.45225	N/A	N/A	N/A
Val_72	tumor and benign	high	8	3	5	2b	0	x	0	N/A	N/A	68	44	0	36	8	3	5	20	33.3333333	2.2	N/A	N/A	N/A
Val_73	tumor and benign	low	6	3	3	2b	0	x	0	N/A	N/A	65	5.5	24	60	4	2	2	37	6.66666667	0.14864865	N/A	N/A	N/A
Val_74	tumor and benign	low	7	3	4	2b	0	x	1	N/A	N/A	61	4.7	9	30	7	3	4	26	40	0.18076923	N/A	N/A	N/A
Val_75	tumor and benign	low	7	3	4	2c	x	x	0	N/A	N/A	55	3.15	12		6	3	3	35	20	0.09	N/A	N/A	N/A
Val_76	tumor and benign	low	6	3	3	3a	0	x	0	N/A	N/A	69	6.8	16		7	3	4	26	20	0.26153846	N/A	N/A	N/A
Val_77	tumor and benign	high	8	4	4	2b	0	x	0	N/A	N/A	55	7.4	8		7	3	4	25	36.3636364	0.296	N/A	N/A	N/A
Val_78	tumor and benign	high	9	5	4	2c	x	x	0	N/A	N/A	51	6.9	5	37	7	3	4	25	13.3333333	0.276	N/A	N/A	N/A
Val_79	tumor and benign	high	8	3	5	2c	x	x	0	N/A	N/A	59	4.4	10	50	6	3	3	50	10	0.088	N/A	N/A	N/A

Supplementary Table 2: Detailed information for gene specific Taqman and siRNA assays.

Gene Symbol	Taqman Assay ID	RefSeq	Exon Boundary	Median Cp Tissues Tumor / Benign	Median Cp Cell line PC3 /LNCaP	Dharmacon ON-TARGETplus SMARTpool
MELK	Hs00207681_m1	NM_014791	5-6	38.12 / 40.00	30.70 / 30.54	L-004029-00
UBE2C	Hs00964100_g1	NM_181799.1	5-6	34.01 / 34.58	24.70 / 26.36	L-004693-00
CDC20	Hs00415851_g1	NM_001255.2	1-2	36.26 / 36.71	29.75 / 29.75	N/A
CDCA8	Hs00983655_m1	NM_018101.2	3-4	35.05 / 35.65	28.99 / 28.71	N/A
PRC1	Hs00187740_m1	NM_199413.1	1-2	34.81 / 35.12	N/A	N/A
CCNB2	Hs00270424_m1	NM_004701.2	1-2	32.93 / 33.14	N/A	N/A
POLR2A	Hs00172187_m1	NM_000937.4	1-2	34.68 / 34.60	N/A	N/A
FOXM1	Hs01073586_m1	NM_001243088.1	4-5	N/A	27.51 / 28.01	N/A
B2M	Hs99999907_m1	NM_004048.2	2-3	23.74 / 23.84	23.04 / 24.89	N/A

Supplementary Table 3: Differentially expressed genes between high- (GS≥ 4+3) and low-risk (GS ≤ 4+3) prostate

Comparison of prostate cancer with high versus low Gleason pattern

		LIMMA analysis							**Gene Ontology analysis**						**Comparison with other risk signatures**			
No.	ID Ref	Average Expression	adj.P.Val	Fold change	t	B	Gene symbol	Entrez Gene ID	cell cycle	cell division	spindle organization and biogenesis	cell differentiation	microtubule-based process	apoptosis	sexual reproduction	CCP Signature (Cuzick, 2011)	Gleason Signature (Penney, 2011)	Astrocytoma Signature (Marie, 2008)	Siomycin A Signature in LNCaP
1	ILMN_2128967	9.3466	0.0010	0.6672	-6.1134	8.6623	C11orf1	64776											
2	ILMN_1714730	6.5263	0.0033	1.4453	5.5965	6.6324	UBE2C	11065	x	x	x		x				x	x	x
3	ILMN_1663390	6.7832	0.0033	1.5213	5.6453	6.8204	CDC20	991	x	x						x		x	x
4	ILMN_1745798	8.8262	0.0054	0.7447	-5.4136	5.9333	GTF2F2	2963											
5	ILMN_2344971	6.1770	0.0068	1.2230	5.3100	5.5430	FOXM1	2305								x	x		
6	ILMN_2357438	6.6809	0.0069	1.3334	5.1451	4.9291	AURKA	6790	x		x		x						x
7	ILMN_1654552	8.7160	0.0069	0.7840	-5.0793	4.6867	MRPS31	10240											
8	ILMN_1767612	9.2983	0.0069	0.7870	-5.1975	5.1230	BBS2	583											
9	ILMN_1905075	6.4419	0.0069	0.8337	-5.0898	4.7252		NA											
10	ILMN_2391912	6.7959	0.0069	1.2764	5.1148	4.8174	SEC14L1	6397											
11	ILMN_1793300	6.3230	0.0069	1.4340	5.0824	4.6981	LOC391475	391475											
12	ILMN_2212909	6.5996	0.0069	1.4530	5.1545	4.9637	**MELK**	9833										x	x
13	ILMN_1691290	6.8995	0.0069	1.6770	5.1080	4.7921	CELSR3	1951											
14	ILMN_1672743	7.2023	0.0076	0.7076	-5.0366	4.5305	ZNF334	55713											
15	ILMN_2042771	7.1031	0.0089	1.4736	4.9668	4.2768	PTTG1	9232	x	x					x	x	x		
16	ILMN_2225577	7.5398	0.0089	0.8055	-4.9697	4.2873	C5orf37	134359											
17	ILMN_1891713	6.0524	0.0093	1.0936	4.9422	4.1878		NA											
18	ILMN_2046003	9.1355	0.0096	0.7798	-4.9202	4.1087	ZDHHC6	64429											
19	ILMN_2179717	9.5535	0.0098	0.6351	-4.9029	4.0463	C9orf61	9413											
20	ILMN_2330170	8.6027	0.0099	0.4115	-4.8756	3.9484	MYBPC1	4604									x		
21	ILMN_2049274	6.1490	0.0099	1.2598	4.8794	3.9618	ARHGDIG	398											
22	ILMN_1786065	6.8247	0.0103	1.3470	4.8418	3.8273	UHRF1	29128	x										x
23	ILMN_1666610	6.4178	0.0103	0.8643	-4.8470	3.8458	NARG2	79664											
24	ILMN_1716279	6.5222	0.0105	1.1792	4.8159	3.7350	CENPE	1062	x	x			x					x	
25	ILMN_1695658	6.4033	0.0105	1.2944	4.8206	3.7519	KIF20A	10112					x			x			x
26	ILMN_1655915	7.3798	0.0105	1.7348	4.8070	3.7036	MMP11	4320									x		
27	ILMN_1719069	6.1329	0.0130	1.2556	4.7369	3.4553	FOXN4	121643											
28	ILMN_1806037	7.2290	0.0130	1.4516	4.7420	3.4734	TK1	7083								x	x		x
29	ILMN_1709294	6.5715	0.0142	1.2481	4.7047	3.3422	CDCA8	55143	x	x						x			x
30	ILMN_1777233	6.6249	0.0152	1.3402	4.6708	3.2233	E2F2	1870	x			x		x					x
31	ILMN_1770206	9.5238	0.0152	0.7204	-4.6762	3.2422	GEMIN4	50628											
32	ILMN_1812926	10.1407	0.0162	0.6502	-4.6471	3.1405	ANTXR2	118429											
33	ILMN_1700337	6.4237	0.0167	1.2251	4.6316	3.0867	TROAP	10024											
34	ILMN_1657796	7.2109	0.0173	1.3349	4.6150	3.0289	STMN1	3925	x		x	x	x			x			x
35	ILMN_1779015	7.7066	0.0174	1.5553	4.6075	3.0031	ZNF467	168544											
36	ILMN_1785731	6.6183	0.0185	1.3205	4.5842	2.9225	MAPK8IP2	23542				x		x					
37	ILMN_1779530	7.3467	0.0194	0.7519	-4.5612	2.8432	COG6	57511											
38	ILMN_2245305	8.9326	0.0194	1.5552	4.5586	2.8339	ABHD12	26090											
39	ILMN_1728934	7.5758	0.0208	1.3503	4.5213	2.7059	PRC1	9055	x	x	x		x			x		x	x
40	ILMN_2301083	6.7140	0.0208	1.4101	4.5191	2.6985	UBE2C	11065	x	x	x		x				x	x	x
41	ILMN_1802646	8.5821	0.0208	0.6772	-4.5162	2.6885	EPHB6	2051									x		
42	ILMN_1705774	7.7155	0.0208	1.2553	4.5031	2.6437	TIGD5	84948											
43	ILMN_1780667	7.1378	0.0208	1.3001	4.5061	2.6540	WDR51A	25886										x	x
44	ILMN_1696466	6.3158	0.0208	1.4260	4.5070	2.6570	ROPN1L	83853											
45	ILMN_1680955	6.9051	0.0208	1.3165	4.4967	2.6218	AURKA	6790	x				x						x
46	ILMN_1711470	6.3541	0.0210	1.2097	4.4886	2.5942	UBE2T	29089										x	x
47	ILMN_1752075	9.7814	0.0212	0.4061	-4.4759	2.5509	MYBPC1	4604											
48	ILMN_1778203	8.3040	0.0212	0.7866	-4.4751	2.5482	CLN5	1203											
49	ILMN_2196984	6.5210	0.0212	1.2535	4.4703	2.5319	OIP5	11339								x		x	x
50	ILMN_1798379	6.1580	0.0227	1.1807	4.4475	2.4544	HNT	50863											
51	ILMN_1776724	6.5504	0.0233	0.8254	-4.4353	2.4132	MGC52057	130574											
52	ILMN_1662795	6.6635	0.0234	1.4068	4.4292	2.3924	CA2	760											
53	ILMN_1786429	8.3391	0.0247	0.7409	-4.3955	2.2786	P2RY5	10161											
54	ILMN_1696585	6.9084	0.0247	0.7576	-4.3898	2.2597	C20orf42	55612											
55	ILMN_1788468	10.9582	0.0247	0.7689	-4.3874	2.2516	FLJ10154	55082											
56	ILMN_2041327	10.4731	0.0247	1.2437	4.4052	2.3116	MRPL37	51253											
57	ILMN_1683377	6.1838	0.0247	1.3244	4.3840	2.2400	MDH1B	130752											
58	ILMN_1761820	7.4074	0.0247	1.5704	4.4095	2.3261	EDARADD	128178				x							
59	ILMN_2108735	8.6628	0.0247	2.2588	4.3822	2.2341	EEF1A2	1917				x		x					
60	ILMN_2406468	9.0188	0.0250	0.7656	-4.3749	2.2097	NFU1	27247											
61	ILMN_2175131	11.4231	0.0266	0.7546	-4.3505	2.1279	TMEM14C	51522											
62	ILMN_1731184	6.2521	0.0266	1.1964	4.3515	2.1312	MELK	9833										x	x
63	ILMN_1782754	8.2682	0.0269	0.5472	-4.3416	2.0980	PAGE4	9506									x		
64	ILMN_1704985	9.1977	0.0269	0.5853	-4.3395	2.0912	CYP27A1	1593									x		
65	ILMN_2285996	6.8616	0.0272	1.4231	4.3323	2.0670	KIAA0101	9768								x		x	x
66	ILMN_1808333	8.8820	0.0284	0.7724	-4.3171	2.0166	PPP1R7	5510											
67	ILMN_1705522	6.4850	0.0296	1.3364	4.3016	1.9650	SPAG1	6674							x				
68	ILMN_1764729	8.3255	0.0297	1.3296	4.2819	1.8997	JAG2	3714	x			x			x				
69	ILMN_2153061	6.0492	0.0297	1.0814	4.2874	1.9180	FGF20	26281											
70	ILMN_1757627	8.3324	0.0297	1.2452	4.2836	1.9053	ZMYND19	116225											
71	ILMN_1655498	6.2812	0.0297	1.2504	4.2968	1.9491	FAM57B	83723											
72	ILMN_1710756	12.1905	0.0297	1.2673	4.2923	1.9342	ENO1	2023											
73	ILMN_1748538	9.0946	0.0300	0.6154	-4.2602	1.8279	ALDH1A2	8854											
74	ILMN_1702858	8.6956	0.0300	0.6812	-4.2558	1.8135	ADHFE1	137872											
75	ILMN_1798557	7.8696	0.0300	0.6977	-4.2549	1.8106	LOC202134	202134											
76	ILMN_1802519	7.8000	0.0300	0.7293	-4.2714	1.8648	VPS36	51028											

77	ILMN_1775549	6.3969	0.0300	1.2628	4.2740	1.8736	PRSS27	83886										
78	ILMN_1673998	6.2292	0.0300	1.2686	4.2643	1.8415	SSTR1	6751										
79	ILMN_1765082	7.6872	0.0300	1.3608	4.2546	1.8094	RBM10	8241										
80	ILMN_1716608	6.6443	0.0302	1.2408	4.2493	1.7920	NGFB	4803			x							
81	ILMN_1715647	8.2325	0.0314	0.6755	-4.2362	1.7490	VANGL2	57216										
82	ILMN_1664464	10.2798	0.0314	0.5598	-4.2318	1.7347	PTGDS	5730										
83	ILMN_2221808	6.3049	0.0314	1.2301	4.2294	1.7268	DGCR5	26220										
84	ILMN_1728844	7.1768	0.0356	0.7001	-4.1833	1.5760	PTPRN2	5799								x		
85	ILMN_1683824	6.7732	0.0356	0.7231	-4.1774	1.5566	TMEM16G	50636										
86	ILMN_2120247	9.7406	0.0356	0.7255	-4.1797	1.5642	SLC2A10	81031										
87	ILMN_1693287	10.6003	0.0356	0.8315	-4.1880	1.5911	POMP	51371										
88	ILMN_2125763	6.1628	0.0356	1.1696	4.1886	1.5932	ZMYND10	51364										
89	ILMN_1857017	8.2040	0.0356	1.2902	4.1795	1.5635		NA										
90	ILMN_1743204	6.7839	0.0374	1.2901	4.1611	1.5036	DUSP8	1850										
91	ILMN_1761409	6.5192	0.0374	0.8597	-4.1580	1.4935	ZNF167	55888										
92	ILMN_1799389	7.0894	0.0375	1.2251	4.1513	1.4720	FBXL6	26233										
93	ILMN_1711988	6.5629	0.0375	1.4728	4.1532	1.4779	KCNK12	56660										
94	ILMN_1770678	6.7269	0.0377	1.3825	4.1475	1.4595	CBX2	84733										
95	ILMN_1717599	7.0272	0.0378	0.7813	-4.1301	1.4032	CNTN3	5067										
96	ILMN_1778173	10.7805	0.0378	0.7889	-4.1309	1.4058	AK3	50808										
97	ILMN_2407464	8.0174	0.0378	1.2710	4.1351	1.4195	FASTK	10922			x		x					
98	ILMN_1657750	6.9685	0.0378	1.2893	4.1327	1.4116	CNNM1	26507										
99	ILMN_1742547	6.6749	0.0378	1.3735	4.1325	1.4112	NRP1	8829			x							
100	ILMN_2352023	7.4038	0.0378	1.4940	4.1338	1.4151	RIPK5	25778										
101	ILMN_1684217	6.5289	0.0379	1.2434	4.1263	1.3909	AURKB	9212	x	x							x	x
102	ILMN_1731044	7.3547	0.0386	0.6881	-4.1101	1.3389	KCTD14	65987										
103	ILMN_2299450	7.2018	0.0386	0.6977	-4.1158	1.3572	P2RX2	22953										
104	ILMN_1794190	9.5452	0.0386	0.8051	-4.1085	1.3338	CCPG1	9236										
105	ILMN_1785795	9.9606	0.0386	0.8217	-4.1127	1.3473	METAP1	23173										
106	ILMN_1768930	9.3757	0.0386	1.2092	4.1162	1.3585	U2AF2	11338										
107	ILMN_1737205	7.1575	0.0389	1.3688	4.1039	1.3187	MCM4	4173							x			x
108	ILMN_1762764	9.5600	0.0399	0.7207	-4.0884	1.2691	SH3BGRL2	83699										
109	ILMN_1695853	7.1159	0.0399	0.8142	-4.0867	1.2637	CLK4	57396										
110	ILMN_1714158	8.8805	0.0399	0.8215	-4.0881	1.2680	PON2	5445										
111	ILMN_1705617	10.6660	0.0399	1.2994	4.0895	1.2726	CFL1	1072			x		x					
112	ILMN_1733288	7.8928	0.0404	0.7375	-4.0808	1.2446	C1RL	51279										
113	ILMN_2117904	8.6803	0.0404	0.7445	-4.0786	1.2378	ZNF22	7570										
114	ILMN_1793712	9.6636	0.0406	1.2799	4.0747	1.2252	SCAMP3	10067										
115	ILMN_1670238	6.4828	0.0408	1.2550	4.0712	1.2141	CDC45L	8318	x									x
116	ILMN_1750130	10.4407	0.0412	1.2002	4.0652	1.1949	GSPT1	2935	x		x		x					
117	ILMN_1721167	6.3877	0.0412	1.5873	4.0635	1.1892	MYT1	4661			x							
118	ILMN_1670638	7.6422	0.0415	0.7867	-4.0564	1.1668	PITPNC1	26207										
119	ILMN_1686645	8.2513	0.0415	0.8313	-4.0582	1.1724	UTP14C	9724										
120	ILMN_2310295	6.0749	0.0415	1.0907	4.0528	1.1551	C21orf58	54058										
121	ILMN_1758918	10.7256	0.0415	1.2811	4.0537	1.1580	BRD2	6046						x				
122	ILMN_1713162	7.5464	0.0423	0.7172	-4.0452	1.1308	GSTM2	2946										
123	ILMN_2374159	10.0255	0.0427	0.6148	-4.0406	1.1163	HERPUD1	9709										
124	ILMN_1750693	9.9670	0.0432	0.7508	-4.0348	1.0978	SSR1	6745										
125	ILMN_1802627	6.8692	0.0433	1.2494	4.0320	1.0889	MGC10911	84262										
126	ILMN_1680591	8.7615	0.0446	1.2743	4.0216	1.0560	RTKN	6242			x		x					
127	ILMN_1691418	8.4654	0.0456	0.7759	-4.0136	1.0305	NBLA10383	284040										
128	ILMN_1726720	7.0478	0.0456	1.3819	3.9904	0.9571	NUSAP1	51203	x	x		x			x	x	x	x
129	ILMN_1739641	9.2515	0.0456	0.7755	-3.9998	0.9870	MTMR3	8897										
130	ILMN_2390162	9.2669	0.0456	0.7832	-3.9980	0.9814	PHF11	51131										
131	ILMN_1805992	9.7286	0.0456	0.7992	-3.9942	0.9692	KIAA1598	57698										
132	ILMN_1697629	9.5149	0.0456	0.8051	-3.9985	0.9829	PLA2G4B	8681										
133	ILMN_1784264	6.2295	0.0456	0.8945	-3.9987	0.9835	TNFSF13	8741										
134	ILMN_1911793	6.0041	0.0456	1.1138	4.0038	0.9997		NA										
135	ILMN_1695414	6.1302	0.0456	1.1449	3.9884	0.9508	ASF1B	55723			x			x	x		x	x
136	ILMN_1734653	6.1180	0.0456	1.1938	3.9890	0.9528	FNDC1	84624										
137	ILMN_2285802	6.9030	0.0456	1.2246	4.0083	1.0138	SEC14L1	6397										
138	ILMN_1815682	8.4218	0.0456	1.2256	3.9897	0.9551	C3orf37	56941										
139	ILMN_1736441	7.9545	0.0456	1.2333	3.9994	0.9857	PDXP	57026										
140	ILMN_1753345	7.5410	0.0457	1.4395	3.9863	0.9443	SCAMP5	192683										
141	ILMN_2214098	8.6657	0.0461	0.7856	-3.9818	0.9303	BIVM	54841										
142	ILMN_1661618	6.1033	0.0465	1.1299	3.9773	0.9158	C20orf85	128602										
143	ILMN_1809311	6.9615	0.0470	0.6505	-3.9688	0.8891	APOF	319										
144	ILMN_1741477	9.2245	0.0470	0.7876	-3.9704	0.8944	SMAD4	4089										
145	ILMN_1815115	10.5789	0.0470	1.2108	3.9712	0.8968	CYC1	1537										
146	ILMN_1714384	8.3588	0.0474	0.7261	-3.9592	0.8591	PCCA	5095										
147	ILMN_2383707	7.1500	0.0474	0.7394	-3.9584	0.8566	ALDH1A2	8854										
148	ILMN_1742935	8.8047	0.0474	0.8320	-3.9627	0.8701	ZNF11B	7582										
149	ILMN_1798083	7.1146	0.0474	1.1978	3.9590	0.8586	CHERP	10523										
150	ILMN_1774982	9.8309	0.0477	0.5843	-3.9536	0.8415	CDC42EP5	148170										
151	ILMN_2130525	6.9950	0.0477	1.2642	3.9530	0.8396	TSPAN13	27075										
152	ILMN_1713934	11.3289	0.0483	0.7816	-3.9480	0.8241	LITAF	9516										
153	ILMN_1747227	6.2061	0.0490	1.2276	3.9402	0.7995	ADORA1	134			x		x					
154	ILMN_1686097	6.8207	0.0490	1.4091	3.9407	0.8012	TOP2A	7153			x		x		x	x		x

Supplementary Table 4: Differentially expressed genes upon MELK and UBE2C RNAi-based knockdown in PC3 and subsequent microarray analysis.

MELK knockdown and LIMMA analysis

No.	ID Ref	Average Expression	adj.P.Val	Fold change	t	B	Gene symbol	Entrez Gene ID
1	ILMN_2212909	10.0503	0.00016	0.5011	-12.4554	10.0826	MELK	9833
2	ILMN_1731184	9.1845	0.00050	0.5188	-10.8430	8.7405	MELK	9833
3	ILMN_1656868	8.9475	0.00229	0.4314	-8.8873	6.7259	LOC23117	23117
4	ILMN_2385220	8.0763	0.00229	0.5804	-8.9996	6.8548	DFFA	1676
5	ILMN_1763539	9.2546	0.00229	1.6689	8.8412	6.6725	IER3IP1	51124
6	ILMN_3288529	9.1441	0.00229	1.9295	9.2031	7.0840	LOC645630	645630
7	ILMN_1912737	9.3711	0.00347	0.5710	-8.4448	6.2008		NA
8	ILMN_3235517	8.5943	0.00371	0.6335	-8.2430	5.9521	ZNF777	27153
9	ILMN_2317463	9.7127	0.00371	0.6349	-8.2287	5.9342	INTS1	26173
10	ILMN_1746706	8.0102	0.00474	0.6375	-7.9950	5.6380	LOC653103	653103
11	ILMN_1736054	9.7454	0.00483	1.5597	7.9211	5.5426	SUB1	10923
12	ILMN_1808587	8.3497	0.00617	0.5827	-7.5333	5.0284	ZFHX3	463
13	ILMN_1765574	10.1075	0.00617	0.6237	-7.6001	5.1187	TFAP2A	7020
14	ILMN_1765704	8.2625	0.00617	0.6436	-7.5200	5.0104	CDC2L1	984
15	ILMN_2060770	8.4136	0.00617	0.6502	-7.6340	5.1643	RAI1	10743
16	ILMN_3242315	9.2597	0.00617	1.6062	7.5900	5.1051	SNORD3D	780854
17	ILMN_2130525	9.9400	0.00656	1.5556	7.4432	4.9057	TSPAN13	27075
18	ILMN_3243664	8.9383	0.00675	0.5977	-7.3267	4.7449	LOC440353	440353
19	ILMN_1688670	8.5396	0.00675	0.6213	-7.3229	4.7397	CDCP1	64866
20	ILMN_1701875	12.1934	0.00675	0.6669	-7.3465	4.7723	ZYX	7791
21	ILMN_3304111	9.1424	0.00689	0.4764	-7.2615	4.6540	LOC729978	729978
22	ILMN_1800837	9.5695	0.00689	1.5638	7.2504	4.6385	CFDP1	10428
23	ILMN_2115490	9.9601	0.00732	0.4655	-7.1101	4.4404	NBPF20	400818
24	ILMN_1787265	11.6285	0.00732	0.6790	-7.1150	4.4473	ZNF503	84858
25	ILMN_1684042	8.9709	0.00732	1.4570	7.1277	4.4654	BET1	10282
26	ILMN_3193623	11.0059	0.00732	1.5511	7.1131	4.4446	LOC100129657	100129657
27	ILMN_2359742	9.4213	0.00777	0.6042	-7.0063	4.2917	CTSB	1508
28	ILMN_1787509	8.7880	0.00777	0.6472	-7.0155	4.3048	PRIC285	85441
29	ILMN_3307782	10.3760	0.00777	0.6728	-7.0420	4.3430	FBXL18	80028
30	ILMN_3230608	8.4988	0.00819	0.4839	-6.9540	4.2160	NBPF8	728841
31	ILMN_1672547	8.1408	0.00826	0.6744	-6.9286	4.1793	MYO9B	4650
32	ILMN_2108709	8.7310	0.00894	0.6437	-6.8617	4.0816	ANKRD11	29123
33	ILMN_1813975	8.3587	0.00946	1.4897	6.8095	4.0049	ADI1	55256
34	ILMN_3258027	7.8318	0.00962	1.5477	6.7815	3.9637	LOC100128291	100128291
35	ILMN_1782331	9.4974	0.00964	0.6384	-6.7462	3.9114	TDG	6996
36	ILMN_3229324	9.4663	0.00964	1.4407	6.7517	3.9196	SGK1	6446
37	ILMN_2370772	10.4232	0.01000	0.6461	-6.7079	3.8545	EIF4G1	1981
38	ILMN_2179397	9.9147	0.01001	1.4761	6.6608	3.7842	TATDN1	83940
39	ILMN_3227529	11.7625	0.01001	1.5029	6.6616	3.7853	LOC729236	729236
40	ILMN_1726460	10.4277	0.01001	1.5452	6.6808	3.8140	RPL14	9045
41	ILMN_3200322	9.8324	0.01119	1.4635	6.5805	3.6633	LOC387791	387791
42	ILMN_2360784	10.8424	0.01181	0.6527	-6.5207	3.5728	RRBP1	6238
43	ILMN_2344455	10.0227	0.01181	1.4851	6.5226	3.5756	G3BP1	10146
44	ILMN_1912083	7.7946	0.01257	0.6797	-6.4710	3.4969		NA
45	ILMN_1773567	11.2928	0.01280	0.6640	-6.4476	3.4611	LAMA5	3911
46	ILMN_2087989	8.8211	0.01350	1.4647	6.4035	3.3935	ZFAND1	79752
47	ILMN_1766171	10.4973	0.01422	0.6452	-6.3487	3.3088	SNF8	11267
48	ILMN_1685781	10.2021	0.01422	1.4037	6.3509	3.3121	C14orf142	84520
49	ILMN_2181241	11.5701	0.01465	1.5608	6.3199	3.2641	LOC649946	649946
50	ILMN_2410929	9.7766	0.01600	0.6929	-6.2574	3.1667	PAPSS2	9060
51	ILMN_1738579	8.0281	0.01663	0.6997	-6.2021	3.0799	VHL	7428
52	ILMN_1760741	11.1621	0.01663	1.3897	6.1913	3.0630	NDUFA9	4704
53	ILMN_1785107	8.4524	0.01663	1.4396	6.1918	3.0637	NXT2	55916
54	ILMN_1652003	8.3863	0.01663	1.4953	6.1989	3.0749	GNG10	2790
55	ILMN_2313926	8.8435	0.01682	1.4592	6.1743	3.0362	CDC42SE2	56990
56	ILMN_2393450	10.6865	0.01689	0.7020	-6.1573	3.0093	C14orf173	64423
57	ILMN_1682567	10.3707	0.01689	0.7143	-6.1518	3.0006	CCDC106	29903
58	ILMN_1747281	10.2826	0.01697	0.7210	-6.1302	2.9664	EVI5L	115704
59	ILMN_1792712	8.7633	0.01697	1.4249	6.1278	2.9626	LOC201725	201725
60	ILMN_1803742	8.6497	0.01697	1.6337	6.1200	2.9502	CAPZA1	829
61	ILMN_1676423	9.3225	0.01729	1.4004	6.0999	2.9182	CCNC	892
62	ILMN_1664718	8.6241	0.01747	1.4282	6.0848	2.8943	CYP51A1	1595
63	ILMN_1676665	9.8361	0.01759	0.6363	-6.0640	2.8610	CUEDC1	404093
64	ILMN_3199929	8.7563	0.01759	1.5121	6.0631	2.8597	LOC390183	390183
65	ILMN_1706521	11.0929	0.01763	0.7104	-6.0274	2.8026	CSNK1G2	1455
66	ILMN_1779171	9.2779	0.01763	0.7145	-6.0304	2.8074	SGSM2	9905
67	ILMN_1679025	8.8419	0.01763	1.4664	6.0332	2.8119	LOC641848	641848
68	ILMN_2068104	9.4381	0.01763	1.4849	6.0352	2.8150	TFPI2	7980
69	ILMN_2332558	9.5851	0.01873	1.3773	5.9854	2.7351	ARL5A	26225
70	ILMN_2180606	10.1648	0.01875	1.3803	5.9645	2.7015	NAT13	80218
71	ILMN_1719749	11.3113	0.01875	1.4294	5.9707	2.7115	PTGES3	10728
72	ILMN_2149400	7.8984	0.01875	1.5212	5.9607	2.6953	SPC25	57405
73	ILMN_3234997	8.7337	0.01892	0.6287	-5.9479	2.6747	MAP7D1	55700
74	ILMN_1668194	8.9181	0.01930	0.7165	-5.9243	2.6365	LMTK3	114783
75	ILMN_1654545	10.0084	0.01930	0.7199	-5.9218	2.6326	CPSF1	29894
76	ILMN_2401701	7.8554	0.01934	1.3932	5.9132	2.6186	PCGF6	84108
77	ILMN_1786197	10.2224	0.01941	0.6896	-5.8968	2.5921	NR2F1	7025
78	ILMN_2309245	9.7830	0.01941	0.7159	-5.9033	2.6026	BIN1	274
79	ILMN_1666976	9.0320	0.02054	0.7192	-5.8443	2.5065	PLD3	23646
80	ILMN_3208881	8.8821	0.02054	0.7216	-5.8444	2.5067	LOC647597	647597
81	ILMN_2048822	9.0945	0.02054	1.4638	5.8555	2.5248	NUDCD2	134492
82	ILMN_1809931	11.3628	0.02062	0.6984	-5.8322	2.4868	NDRG1	10397
83	ILMN_1685397	11.9093	0.02062	0.7220	-5.8285	2.4808	ITGA3	3675
84	ILMN_2285375	9.0864	0.02068	1.3672	5.8071	2.4457	SORD	6652
85	ILMN_3241834	11.4963	0.02068	1.4081	5.8081	2.4474	LOC100134504	100134504
86	ILMN_1687036	8.9029	0.02068	1.4773	5.8144	2.4577	MRPL47	57129
87	ILMN_1692223	11.3478	0.02069	0.7154	-5.8006	2.4350	LCN2	3934
88	ILMN_2284591	7.7012	0.02075	0.6815	-5.7926	2.4220	OPA3	80207
89	ILMN_1690963	11.3898	0.02118	0.7087	-5.7697	2.3843	ASAP1	50807
90	ILMN_1659297	9.1539	0.02118	1.4111	5.7688	2.3829	FZD6	8323
91	ILMN_1784436	9.3062	0.02122	0.7118	-5.7610	2.3701	KIAA1688	80728
92	ILMN_1665823	12.1419	0.02122	1.4438	5.7557	2.3613	LOC389787	389787
93	ILMN_3275936	9.2143	0.02123	1.4649	5.7495	2.3511	LOC100133277	100133277
94	ILMN_1809928	9.7917	0.02131	0.6801	-5.7299	2.3189	COL6A2	1292
95	ILMN_1735788	8.7438	0.02131	0.7077	-5.7358	2.3286	TRIOBP	11078
96	ILMN_1769412	8.5449	0.02131	0.7367	-5.7312	2.3209	RAPGEF1	2889
97	ILMN_1768470	10.8536	0.02135	0.6919	-5.7232	2.3077	EIF4G1	1981
98	ILMN_1664994	8.0262	0.02135	1.4189	5.7176	2.2985	MINPP1	9562
99	ILMN_2380938	8.3322	0.02179	0.7014	-5.7006	2.2703	SYT7	9066
100	ILMN_3243156	9.2258	0.02191	0.7017	-5.6921	2.2563	AHNAK2	113146
101	ILMN_1683313	11.0750	0.02209	0.6594	-5.6712	2.2216	ST3GAL1	6482
102	ILMN_1706558	8.9230	0.02209	1.3683	5.6686	2.2174	FLJ20628	55006
103	ILMN_2145250	9.0342	0.02209	1.3794	5.6661	2.2132	NACAP1	83955
104	ILMN_3207738	8.7714	0.02209	1.4268	5.6710	2.2214	LOC646527	646527
105	ILMN_1790973	9.2359	0.02214	1.3717	5.6590	2.2014	CDS2	8760
106	ILMN_3211302	7.9740	0.02214	1.4023	5.6546	2.1941	LOC646909	646909

UBE2C knockdown and LIMMA analysis

No.	ID_Ref	Average Expression	adj.P.Val	Fold change	t	B	Gene symbol	Entrez Gene ID
1	ILMN_2301083	12.4150	0.00002	0.4083	-13.9241	11.4656	UBE2C	11065
2	ILMN_1714730	12.3216	0.00034	0.4931	-10.6478	8.8513	UBE2C	11065
3	ILMN_1892403	10.0303	0.00034	2.0579	10.4761	8.6844	SNORD13	692084
4	ILMN_3302456	11.6361	0.00093	1.9416	9.5123	7.6814	LOC730029	730029
5	ILMN_1656868	9.1288	0.00247	0.4786	-8.5774	6.5917	LOC23117	23117
6	ILMN_3243664	8.9679	0.00247	0.5532	-8.5595	6.5696	LOC440353	440353
7	ILMN_3242315	9.2493	0.00310	1.7759	8.2601	6.1934	SNORD3D	780854
8	ILMN_3268697	9.6826	0.00310	2.2381	8.2209	6.1431	LOC100129882	100129882
9	ILMN_2385220	8.1804	0.00324	0.6067	-8.1146	6.0058	DFFA	1676
10	ILMN_1678692	10.1648	0.00485	0.6020	-7.7925	5.5788	MPRIP	23164
11	ILMN_1746706	8.0251	0.00785	0.5844	-7.3825	5.0117	LOC653103	653103
12	ILMN_1728605	11.5501	0.00785	0.6216	-7.3849	5.0150	TTC3	7267
13	ILMN_1747935	8.1125	0.00816	0.5915	-7.2240	4.7853	GOLGB1	2804
14	ILMN_1752249	9.2239	0.00816	0.6114	-7.2679	4.8483	FAM38A	9780
15	ILMN_1815184	9.0375	0.00816	0.6337	-7.2561	4.8314	ASPM	259266
16	ILMN_3241034	7.6174	0.00821	1.5563	7.1823	4.7249	SNORD3C	780853
17	ILMN_1716279	8.0245	0.00953	0.6261	-7.0239	4.4934	CENPE	1062
18	ILMN_1687440	10.2914	0.00953	0.6329	-7.0464	4.5266	HIPK2	28996
19	ILMN_2177090	9.4914	0.01000	0.5938	-6.9617	4.4015	LOC200030	200030
20	ILMN_1702775	9.9472	0.01000	0.6213	-6.9049	4.3168	LRP5	4041
21	ILMN_1763539	9.1461	0.01000	1.5717	6.9075	4.3207	IER3IP1	51124
22	ILMN_3288830	8.6667	0.01043	1.5688	6.8535	4.2398	LOC100132918	100132918
23	ILMN_3245476	10.1597	0.01138	0.6533	-6.7767	4.1239	PHRF1	57661
24	ILMN_2048607	10.1912	0.01140	0.6441	-6.7052	4.0152	ANKRD9	122416
25	ILMN_1765574	10.2054	0.01140	0.6567	-6.7196	4.0371	TFAP2A	7020
26	ILMN_3279652	8.4243	0.01140	1.6098	6.7476	4.0798	LOC392301	392301
27	ILMN_1682402	7.2618	0.01201	1.5119	6.6535	3.9360	SNORD46	94161
28	ILMN_1736054	9.6636	0.01266	1.5127	6.6024	3.8574	SUB1	10923
29	ILMN_1672547	8.1888	0.01535	0.6640	-6.4732	3.6564	MYO9B	4650
30	ILMN_2108709	8.7914	0.01587	0.6402	-6.4353	3.5969	ANKRD11	29123
31	ILMN_2309245	9.7946	0.01639	0.6720	-6.3739	3.5001	BIN1	274
32	ILMN_1719749	11.2953	0.01639	1.5202	6.3663	3.4880	PTGES3	10728
33	ILMN_1727348	10.0815	0.01639	1.5267	6.3635	3.4836	NMD3	51068
34	ILMN_1803742	8.5493	0.01639	1.5521	6.3469	3.4574	CAPZA1	829
35	ILMN_3288529	8.9758	0.01693	1.6987	6.3126	3.4028	LOC645630	645630
36	ILMN_3304111	9.2895	0.01770	0.5107	-6.2722	3.3383	LOC729978	729978
37	ILMN_2383913	8.4429	0.01786	1.4846	6.2519	3.3058	WDR33	55339
38	ILMN_1689989	8.3327	0.02046	0.6249	-6.1383	3.1228	CDC42BPB	9578
39	ILMN_1673069	10.7727	0.02046	0.6486	-6.0039	2.9033	DPP9	91039
40	ILMN_1721741	8.5052	0.02046	0.6629	-6.0294	2.9451	ATPBD1B	54707
41	ILMN_1811592	9.5514	0.02046	0.6644	-6.0919	3.0474	ARHGAP21	57584
42	ILMN_2359742	9.5518	0.02046	0.6678	-6.0362	2.9564	CTSB	1508
43	ILMN_1660368	10.5402	0.02046	0.6812	-5.9877	2.8767	TRRAP	8295
44	ILMN_3246766	7.8526	0.02046	0.6813	-6.0430	2.9675	LOC100132247	100132247
45	ILMN_1814173	11.5271	0.02046	0.6882	-6.0544	2.9861	SMARCA4	6597
46	ILMN_1699856	9.0313	0.02046	0.6886	-5.9887	2.8784	RALGDS	5900
47	ILMN_1667201	9.0536	0.02046	1.4573	6.0325	2.9502	WDR51B	282809
48	ILMN_1860288	9.6048	0.02046	1.4664	6.0641	3.0019		NA
49	ILMN_3248575	7.4448	0.02046	1.4935	6.0009	2.8985	SNORA42	677823
50	ILMN_1778104	8.9602	0.02046	1.5171	6.0290	2.9445	ACADM	34
51	ILMN_1800837	9.4890	0.02046	1.5210	6.1020	3.0638	CFDP1	10428
52	ILMN_1660840	10.8170	0.02046	1.5274	5.9696	2.8469	PPPDE1	51029
53	ILMN_3207738	8.7623	0.02046	1.5350	5.9797	2.8635	LOC646527	646527
54	ILMN_1767837	8.6961	0.02046	1.7502	6.0044	2.9042	GOLT1B	51026
55	ILMN_1651254	10.4014	0.02246	0.6511	-5.9091	2.7468	LPP	4026
56	ILMN_2370772	10.4899	0.02249	0.6502	-5.8795	2.6976	EIF4G1	1981
57	ILMN_1768470	10.8908	0.02249	0.6730	-5.8875	2.7109	EIF4G1	1981
58	ILMN_1655710	13.0833	0.02249	1.5654	5.8981	2.7285	LOC642989	642989
59	ILMN_1692575	8.5946	0.02271	0.6579	-5.8650	2.6736	SFRS8	6433
60	ILMN_1768311	8.3515	0.02357	0.6381	-5.8360	2.6252	LOC728888	728888
61	ILMN_3307782	10.4372	0.02364	0.6775	-5.8167	2.5929	FBXL18	80028
62	ILMN_3229859	8.8432	0.02364	1.5141	5.8184	2.5956	MOBKL3	25843
63	ILMN_1725666	8.8452	0.02365	1.4893	5.8081	2.5784	GTF2H3	2967
64	ILMN_1680037	9.3440	0.02483	0.7007	-5.7598	2.4974	FAM65A	79567
65	ILMN_1679700	9.3605	0.02483	1.4299	5.7569	2.4924	LOC389672	389672
66	ILMN_1792138	11.0742	0.02483	1.4701	5.7602	2.4980	UQCRH	7388
67	ILMN_2400874	11.4422	0.02493	0.6937	-5.7467	2.4752	SCYL1	57410
68	ILMN_2180239	9.0185	0.02523	0.6927	-5.7325	2.4513	DOPEY2	9980
69	ILMN_1800354	12.8343	0.02549	0.6929	-5.7063	2.4071	CST3	1471
70	ILMN_2317463	9.8315	0.02549	0.6963	-5.7097	2.4128	INTS1	26173
71	ILMN_2226415	8.6723	0.02549	1.4822	5.6964	2.3904	LOC440145	440145
72	ILMN_3227563	10.5073	0.02549	1.5032	5.7032	2.4018	LOC729255	729255
73	ILMN_1755582	9.5753	0.02606	0.6537	-5.6774	2.3581	PCSK1N	27344
74	ILMN_1696065	11.7315	0.02659	0.6919	-5.6594	2.3275	SDF4	51150
75	ILMN_2115490	10.1526	0.02672	0.5368	-5.6404	2.2953	NBPF20	400818
76	ILMN_1666269	10.5389	0.02672	0.6572	-5.6357	2.2873	CTSZ	1522
77	ILMN_2380163	10.5447	0.02672	0.6996	-5.6466	2.3059	PTPRF	5792
78	ILMN_3230608	8.6601	0.02764	0.5338	-5.5917	2.2121	NBPF8	728841
79	ILMN_1815154	9.7491	0.02764	0.6679	-5.6061	2.2368	MYH10	4628
80	ILMN_1808587	8.5120	0.02764	0.6745	-5.5685	2.1725	ZFHX3	463
81	ILMN_1690963	11.4250	0.02764	0.6912	-5.5655	2.1673	ASAP1	50807
82	ILMN_1769412	8.5564	0.02764	0.6962	-5.5929	2.2143	RAPGEF1	2889
83	ILMN_3299905	8.1833	0.02764	0.7094	-5.5739	2.1817	RNFT2	84900
84	ILMN_1788625	7.6664	0.02764	1.4260	5.5838	2.1988	EXOC5	10640
85	ILMN_1726288	8.5226	0.02764	1.4603	5.5785	2.1896	TMEM106B	54664
86	ILMN_1773567	11.3443	0.02801	0.6554	-5.5521	2.1444	LAMA5	3911
87	ILMN_1704446	9.8002	0.02813	0.6870	-5.5439	2.1302	SLC6A10P	386757
88	ILMN_1787509	8.8432	0.02968	0.6388	-5.4216	1.9191	PRIC285	85441
89	ILMN_1725534	10.5258	0.02968	0.6604	-5.4412	1.9531	ACTN4	81
90	ILMN_2056032	9.9931	0.02968	0.6616	-5.4160	1.9094	CD99	4267
91	ILMN_1705686	10.1015	0.02968	0.6778	-5.4012	1.8837	NRGN	4900
92	ILMN_1784352	10.9245	0.02968	0.6811	-5.3889	1.8623	CCM2	83605
93	ILMN_1789492	11.1303	0.02968	0.6844	-5.4705	2.0038	ZDHHC8	29801
94	ILMN_1838863	9.4253	0.02968	0.6886	-5.4836	2.0264		NA
95	ILMN_1763447	8.9952	0.02968	0.6892	-5.4656	1.9954	PLXNB2	23654
96	ILMN_1708101	10.9394	0.02968	0.6918	-5.3904	1.8649	LMNB2	84823
97	ILMN_1806946	8.4254	0.02968	0.6935	-5.4902	2.0378	UBTF	7343
98	ILMN_1709307	9.4789	0.02968	0.6965	-5.4437	1.9575	GPSM1	26086
99	ILMN_1781472	8.1805	0.02968	0.6966	-5.3695	1.8285	CDC42BPA	8476
100	ILMN_1815500	10.6146	0.02968	0.6972	-5.3875	1.8598	ITPR3	3710
101	ILMN_1809928	9.8670	0.02968	0.7038	-5.5058	2.0648	COL6A2	1292
102	ILMN_2318811	10.4120	0.02968	0.7058	-5.3431	1.7823	RANBP3	8498
103	ILMN_2112493	10.9700	0.02968	0.7093	-5.3954	1.8736	DAP	1611
104	ILMN_1744937	8.4981	0.02968	0.7096	-5.4402	1.9514	PTPRM	5797
105	ILMN_2095133	9.2537	0.02968	0.7124	-5.3430	1.7823	SPTAN1	6709
106	ILMN_3235517	8.7282	0.02968	0.7128	-5.4095	1.8982	ZNF777	27153

107	ILMN_1743275	8.1899	0.02216	0.6879	-5.6439	2.1764	SH3RF3	344558
108	ILMN_1745329	9.6890	0.02216	0.7416	-5.6386	2.1675	PRR14	78994
109	ILMN_3280496	8.2794	0.02216	1.4659	5.6435	2.1756	LOC100131526	100131526
110	ILMN_1792138	11.0832	0.02242	1.3782	5.6245	2.1439	UQCRH	7388
111	ILMN_2198408	7.7733	0.02242	1.3956	5.6223	2.1403	MFF	56947
112	ILMN_1797074	10.6397	0.02314	1.3651	5.6003	2.1036	EMG1	10436
113	ILMN_2048607	10.2044	0.02315	0.7164	-5.5903	2.0870	ANKRD9	122416
114	ILMN_1680134	12.2955	0.02315	0.7259	-5.5943	2.0936	CARM1	10498
115	ILMN_1771627	11.2440	0.02356	0.6809	-5.5720	2.0562	ZMIZ1	57178
116	ILMN_1727574	8.7850	0.02356	0.7048	-5.5712	2.0550	ZNF827	152485
117	ILMN_3279652	8.3811	0.02386	1.3786	5.5597	2.0356	LOC392301	392301
118	ILMN_1811592	9.5192	0.02390	0.6896	-5.5542	2.0263	ARHGAP21	57584
119	ILMN_1655694	9.5679	0.02408	0.7214	-5.5456	2.0119	LOC642031	642031
120	ILMN_2347068	10.3945	0.02410	0.7100	-5.5405	2.0034	MKNK2	2872
121	ILMN_2155719	10.5193	0.02451	0.4931	-5.5235	1.9748	NBPF10	440673
122	ILMN_1745130	9.7364	0.02451	0.7117	-5.5168	1.9635	RBM9	23543
123	ILMN_2390227	8.8486	0.02451	0.7137	-5.5200	1.9690	TBC1D9B	23061
124	ILMN_2091084	11.8782	0.02451	0.7343	-5.5137	1.9583	C8orf37	157657
125	ILMN_1800425	9.8743	0.02454	0.7175	-5.5043	1.9424	SLC9A1	6548
126	ILMN_2341611	9.1751	0.02454	0.7255	-5.5049	1.9434	CDCP1	64866
127	ILMN_1699856	9.0220	0.02475	0.7324	-5.4947	1.9263	RALGDS	5900
128	ILMN_1770616	9.0929	0.02475	1.3452	5.4910	1.9201	C12orf56	115749
129	ILMN_1709257	9.0762	0.02526	0.7021	-5.4657	1.8772	DSCR6	53820
130	ILMN_1773620	9.1845	0.02526	0.7291	-5.4646	1.8755	SMARCC2	6601
131	ILMN_2323366	9.5206	0.02526	1.3562	5.4690	1.8828	SDHC	6391
132	ILMN_3283449	10.2626	0.02526	1.4887	5.4635	1.8736	LOC440991	440991
133	ILMN_2374352	10.9332	0.02526	0.7254	-5.4478	1.8470	DBNDD1	79007
134	ILMN_1680037	9.3182	0.02526	0.7259	-5.4468	1.8453	FAM65A	79567
135	ILMN_3247256	9.3062	0.02526	0.7440	-5.4472	1.8460	LOC646996	646996
136	ILMN_1766981	10.5053	0.02526	1.3318	5.4398	1.8335	UNC50	25972
137	ILMN_1739770	9.3665	0.02526	1.3733	5.4400	1.8337	CRSP9	9443
138	ILMN_2085922	9.6366	0.02526	1.3812	5.4395	1.8329	WRB	7485
139	ILMN_3201663	8.7444	0.02567	1.4001	5.4269	1.8115	LOC645231	645231
140	ILMN_1657111	9.4690	0.02577	0.7008	-5.3900	1.7488	C14orf78	113146
141	ILMN_1815500	10.5782	0.02577	0.7125	-5.3951	1.7573	ITPR3	3710
142	ILMN_2053415	10.9786	0.02577	0.7245	-5.4044	1.7732	LDLR	3949
143	ILMN_1872419	9.1543	0.02577	0.7300	-5.4061	1.7761		NA
144	ILMN_1786065	12.0467	0.02577	0.7323	-5.4098	1.7825	UHRF1	29128
145	ILMN_1756631	7.2806	0.02577	0.7361	-5.3876	1.7446	ZNF526	116115
146	ILMN_1722634	12.2209	0.02577	0.7400	-5.3913	1.7509	NUCB1	4924
147	ILMN_3234547	9.0298	0.02577	1.3819	5.4059	1.7758	LOC100133803	100133803
148	ILMN_3225121	9.5759	0.02577	1.3915	5.4072	1.7781	LOC728484	728484
149	ILMN_3206132	10.8375	0.02577	1.4010	5.3936	1.7549	LOC388076	388076
150	ILMN_1782403	8.7001	0.02680	0.5829	-5.3628	1.7024	PRR11	55771
151	ILMN_1727348	10.0684	0.02714	1.3774	5.3526	1.6849	NMD3	51068
152	ILMN_1807662	10.4563	0.02758	0.7329	-5.3367	1.6577	IGF2R	3482
153	ILMN_1694810	8.6192	0.02758	0.7331	-5.3335	1.6522	PANX2	56666
154	ILMN_1692948	8.4849	0.02758	1.3431	5.3339	1.6530	CCDC90B	60492
155	ILMN_3241034	7.5810	0.02820	1.3545	5.3181	1.6258	SNORD3C	780853
156	ILMN_1789492	11.1074	0.02826	0.7153	-5.3067	1.6063	ZDHHC8	29801
157	ILMN_2373779	9.7606	0.02826	1.3445	5.3091	1.6104	COPS8	10920
158	ILMN_1700380	8.9169	0.02826	1.3458	5.3134	1.6177	ATP6V0A2	23545
159	ILMN_1695422	9.6921	0.02835	0.6931	-5.2969	1.5894	NCL	4691
160	ILMN_1660368	10.5131	0.02835	0.7084	-5.2959	1.5877	TRRAP	8295
161	ILMN_1802397	9.8919	0.02835	0.7222	-5.2941	1.5846	GNA11	2767
162	ILMN_3289730	9.1177	0.02835	1.4067	5.2915	1.5802	LOC100132199	100132199
163	ILMN_1702775	9.9510	0.02883	0.6870	-5.2762	1.5538	LRP5	4041
164	ILMN_2373556	7.7605	0.02883	1.3843	5.2782	1.5573	SPAST	6683
165	ILMN_3256445	7.6882	0.02921	1.3885	5.2659	1.5362	LOC100130289	100130289
166	ILMN_1678362	8.3778	0.02933	0.7200	-5.2605	1.5269	ING80	54617
167	ILMN_2346997	10.4385	0.02956	1.3332	5.2532	1.5143	RAB23	51715
168	ILMN_2112460	7.8887	0.02960	1.3884	5.2493	1.5076	MAD2L1	4085
169	ILMN_3236377	10.4004	0.02961	0.7457	-5.2459	1.5016	C2orf69	205327
170	ILMN_1679919	9.8193	0.02962	0.7163	-5.2404	1.4921	ASCC2	84164
171	ILMN_1660923	9.8059	0.02962	0.7276	-5.2365	1.4854	HCG4	54435
172	ILMN_3237623	9.3068	0.02962	1.4367	5.2366	1.4856	RNY1	6084
173	ILMN_1755582	9.5226	0.02987	0.6616	-5.2289	1.4723	PCSK1N	27344
174	ILMN_2308582	12.7384	0.02987	0.7508	-5.2257	1.4668	CYB5R3	1727
175	ILMN_1669831	8.7394	0.02988	1.3257	5.2226	1.4614	C6orf192	116843
176	ILMN_1730622	10.7627	0.02994	0.7475	-5.2126	1.4442	EVL	51466
177	ILMN_2170595	8.1954	0.02994	1.3949	5.2125	1.4439	RRM2B	50484
178	ILMN_3304203	8.9556	0.02994	1.4190	5.2139	1.4463	LOC729342	729342
179	ILMN_3237946	12.1470	0.03004	0.6940	-5.2037	1.4288	LOC100134134	100134134
180	ILMN_1702197	9.7655	0.03004	0.7099	-5.2003	1.4228	C9orf140	89958
181	ILMN_3307926	10.4334	0.03004	0.7481	-5.1989	1.4204	ADRBK1	156
182	ILMN_3187479	7.7020	0.03004	1.4100	5.1995	1.4214	LOC100129982	100129982
183	ILMN_3226663	11.9985	0.03054	0.6711	-5.1854	1.3970	MGC26356	642280
184	ILMN_1726989	9.7524	0.03054	0.7268	-5.1843	1.3951	C1orf86	199990
185	ILMN_1651254	10.3524	0.03075	0.6629	-5.1779	1.3839	LPP	4026
186	ILMN_3255792	12.3737	0.03096	0.6398	-5.1685	1.3677	LOC100128505	100128505
187	ILMN_1800602	8.8366	0.03096	1.3196	5.1686	1.3678	GCA	25801
188	ILMN_1728605	11.5337	0.03135	0.6683	-5.1481	1.3321	TTC3	7267
189	ILMN_1692575	8.5851	0.03135	0.7060	-5.1512	1.3376	SFRS8	6433
190	ILMN_1777906	11.0500	0.03135	0.7187	-5.1493	1.3344	RPRC1	55700
191	ILMN_1673682	11.3510	0.03135	0.7356	-5.1492	1.3340	GATAD2A	54815
192	ILMN_3243859	13.1055	0.03135	1.3263	5.1551	1.3443	NDUFB9	4715
193	ILMN_1679912	9.2452	0.03191	1.3603	5.1360	1.3111	DPH3	285381
194	ILMN_3244803	8.3055	0.03194	0.6888	-5.1194	1.2822	RAD54L2	23132
195	ILMN_1772492	10.8768	0.03194	0.7068	-5.1238	1.2898	MCART1	92014
196	ILMN_3235410	10.0298	0.03194	0.7127	-5.1167	1.2775	HIATL2	84278
197	ILMN_1734696	10.2380	0.03194	1.3322	5.1284	1.2979	FRG1	2483
198	ILMN_1672287	8.1020	0.03194	1.3431	5.1180	1.2798	MYNN	55892
199	ILMN_3227563	10.5048	0.03194	1.3807	5.1328	1.3055	LOC729255	729255
200	ILMN_3287309	9.2771	0.03194	1.5353	5.1255	1.2928	LOC390578	390578
201	ILMN_2205350	8.4192	0.03206	1.3855	5.1095	1.2649	C6orf66	29078
202	ILMN_1892403	9.8644	0.03206	1.4153	5.1118	1.2689	SNORD13	692084
203	ILMN_1860288	9.5891	0.03273	1.3291	5.0959	1.2412		NA
204	ILMN_2072296	12.4363	0.03275	1.3686	5.0929	1.2360	CKS2	1164
205	ILMN_1724250	11.3630	0.03293	0.6586	-5.0853	1.2227	GRN	2896
206	ILMN_1814173	11.5281	0.03293	0.7426	-5.0850	1.2221	SMARCA4	6597
207	ILMN_2399036	9.0716	0.03337	0.7220	-5.0729	1.2010	SEPN1	57190
208	ILMN_1789112	10.8958	0.03337	0.7257	-5.0708	1.1973	TMEM145	284339
209	ILMN_1729033	9.7016	0.03337	1.4485	5.0703	1.1964	RPL9	6133
210	ILMN_3280020	12.1881	0.03395	1.4976	5.0589	1.1764	LOC441506	441506
211	ILMN_1673069	10.7769	0.03488	0.7114	-5.0372	1.1383	DPP9	91039
212	ILMN_1676515	10.8590	0.03488	0.7399	-5.0377	1.1392	IMPDH1	3614
213	ILMN_1699357	8.3497	0.03488	1.3203	5.0392	1.1418	SLC22A5	6584
214	ILMN_1710216	8.4619	0.03558	1.3175	5.0243	1.1157	AVEN	57099
215	ILMN_1752249	9.2452	0.03595	0.6948	-5.0124	1.0947	FAM38A	9780
216	ILMN_3245476	10.1559	0.03595	0.7076	-5.0117	1.0935	PHRF1	57661
217	ILMN_1796397	8.9820	0.03595	1.3263	5.0139	1.0973	CISD2	493856
218	ILMN_3180420	8.4254	0.03609	0.6790	-5.0071	1.0855	LOC100129269	100129269

107	ILMN_1682567	10.4207	0.02968	0.7160	-5.4387	1.9488	CCDC106	29903
108	ILMN_3307926	10.4508	0.02968	0.7170	-5.3443	1.7846	ADRBK1	156
109	ILMN_1766171	10.6219	0.02968	0.7176	-5.3787	1.8446	SNF8	11267
110	ILMN_1739770	9.3319	0.02968	1.4001	5.3523	1.7985	CRSP9	9443
111	ILMN_1802906	9.1724	0.02968	1.4004	5.3776	1.8425	LOC646900	646900
112	ILMN_2413259	9.3672	0.02968	1.4119	5.3925	1.8685	SOCS4	122809
113	ILMN_1770616	9.0781	0.02968	1.4119	5.4986	2.0524	C12orf56	115749
114	ILMN_2067709	10.6363	0.02968	1.4136	5.3853	1.8561	TFB2M	64216
115	ILMN_2194448	8.7313	0.02968	1.4155	5.3505	1.7954	STT3B	201595
116	ILMN_1803788	9.5298	0.02968	1.4170	5.4335	1.9398	LGALS3	3958
117	ILMN_1779264	11.0888	0.02968	1.4253	5.4170	1.9112	PSMG1	8624
118	ILMN_2179397	9.8410	0.02968	1.4320	5.3656	1.8217	TATDN1	83940
119	ILMN_3240220	8.5265	0.02968	1.4625	5.3488	1.7923	RNU1F1	26866
120	ILMN_1757384	9.8883	0.02968	1.5186	5.3743	1.8368	RAN	5901
121	ILMN_3237623	9.2983	0.02968	1.5500	5.4438	1.9577	RNY1	6084
122	ILMN_1722218	10.8047	0.02990	0.6936	-5.3144	1.7322	MBOAT7	79143
123	ILMN_1673023	9.0426	0.02990	0.7022	-5.3140	1.7314	EP400	57634
124	ILMN_1784436	9.3563	0.02990	0.7131	-5.3193	1.7408	KIAA1688	80728
125	ILMN_2080158	7.6002	0.02990	1.4065	5.3295	1.7585	FAM10A7	155019
126	ILMN_3306168	9.7588	0.02990	1.4124	5.3141	1.7317	MOBKL3	25843
127	ILMN_3238554	7.9364	0.02990	1.4529	5.3328	1.7644	SNORA80	677846
128	ILMN_1723021	10.8231	0.02997	0.7011	-5.3035	1.7131	ICMT	23463
129	ILMN_1654545	10.0509	0.02997	0.7139	-5.3032	1.7125	CPSF1	29894
130	ILMN_1673518	8.6155	0.02997	1.4234	5.3008	1.7083	BRWD1	54014
131	ILMN_2336094	7.7032	0.03101	0.6865	-5.2484	1.6161	ODZ3	55714
132	ILMN_1738759	10.5876	0.03101	0.6973	-5.2720	1.6577	PIGT	51604
133	ILMN_1670899	11.3786	0.03101	0.7047	-5.2713	1.6564	FBN2	2201
134	ILMN_1807662	10.4804	0.03101	0.7071	-5.2678	1.6504	IGF2R	3482
135	ILMN_1786024	8.0723	0.03101	0.7185	-5.2542	1.6263	POLR3H	171568
136	ILMN_1685781	10.1461	0.03101	1.3866	5.2490	1.6173	C14orf142	84520
137	ILMN_1695316	8.7264	0.03101	1.3946	5.2525	1.6235	SLC39A8	64116
138	ILMN_1814573	8.4652	0.03101	1.3949	5.2576	1.6324	FTSJD1	55783
139	ILMN_1837935	8.8639	0.03101	1.4913	5.2513	1.6213	TNPO1	3842
140	ILMN_2367707	9.9551	0.03104	0.6795	-5.2441	1.6087	PKN1	5585
141	ILMN_1673682	11.3598	0.03139	0.6917	-5.2347	1.5920	GATAD2A	54815
142	ILMN_1760160	9.6798	0.03167	0.7191	-5.2266	1.5777	STX1A	6804
143	ILMN_2155719	10.6557	0.03193	0.5234	-5.1934	1.5192	NBPF10	440673
144	ILMN_2410909	12.0337	0.03193	0.6842	-5.1902	1.5135	AKT1	207
145	ILMN_1777906	11.0698	0.03193	0.6848	-5.1968	1.5251	RPRC1	55700
146	ILMN_1754842	9.3986	0.03193	0.6906	-5.1734	1.4836	DLGAP4	22839
147	ILMN_3247578	8.8167	0.03193	0.6982	-5.1610	1.4617	FAT1	2195
148	ILMN_1777049	7.6584	0.03193	0.7049	-5.2149	1.5571	ZNF160	90338
149	ILMN_2075927	8.9122	0.03193	0.7092	-5.1778	1.4915	STK40	83931
150	ILMN_1696870	8.0357	0.03193	0.7180	-5.1790	1.4936	TGFBRAP1	9392
151	ILMN_2340052	11.8602	0.03193	0.7185	-5.1963	1.5242	NCOR2	9612
152	ILMN_2365549	10.3283	0.03193	0.7201	-5.1609	1.4614	BRPF1	7862
153	ILMN_2410929	9.8522	0.03193	0.7207	-5.1721	1.4813	PAPSS2	9060
154	ILMN_1781457	10.3281	0.03193	1.4058	5.1817	1.4984	TIPRL	261726
155	ILMN_1785711	10.5137	0.03193	1.4130	5.1611	1.4618	NEDD8	4738
156	ILMN_1676423	9.2849	0.03193	1.4272	5.2110	1.5503	CCNC	892
157	ILMN_1750145	9.4247	0.03193	1.4635	5.1751	1.4867	YWHAG	7532
158	ILMN_1720422	8.7912	0.03193	1.4714	5.2034	1.5368	G3BP2	9908
159	ILMN_1686811	12.9408	0.03193	1.4976	5.1617	1.4628	LOC402644	402644
160	ILMN_1796738	8.3191	0.03193	1.4992	5.2114	1.5509	SPAST	6683
161	ILMN_1760563	9.6581	0.03274	0.7012	-5.1428	1.4294	BAT2	7916
162	ILMN_1679919	9.8569	0.03274	0.7034	-5.1416	1.4272	ASCC2	84164
163	ILMN_1763837	9.9808	0.03301	0.6508	-5.1272	1.4016	ANPEP	290
164	ILMN_1848552	9.7196	0.03301	0.6704	-5.1229	1.3940		NA
165	ILMN_2346997	10.4124	0.03301	1.3692	5.1196	1.3881	RAB23	51715
166	ILMN_2085922	9.5861	0.03301	1.3719	5.1127	1.3757	WRB	7485
167	ILMN_3231577	6.7322	0.03301	1.3942	5.1138	1.3778	LOC100134648	100134648
168	ILMN_2328776	9.1806	0.03301	1.4555	5.1192	1.3873	MST4	51765
169	ILMN_2353642	10.5357	0.03301	1.4744	5.1162	1.3821	ATP6V0B	533
170	ILMN_2116556	9.4312	0.03301	1.5720	5.1178	1.3849	LSM5	23658
171	ILMN_1713732	8.4529	0.03303	0.7018	-5.1093	1.3698	ABL1	25
172	ILMN_1779171	9.3175	0.03321	0.7037	-5.1014	1.3556	SGSM2	9905
173	ILMN_1658425	10.3813	0.03321	0.7179	-5.1005	1.3541	DAG1	1605
174	ILMN_1669268	8.3658	0.03353	0.7179	-5.0912	1.3374	MEX3D	399664
175	ILMN_3237946	12.2198	0.03353	0.7186	-5.0893	1.3340	LOC100134134	100134134
176	ILMN_1684042	8.8818	0.03353	1.3718	5.0839	1.3245	BET1	10282
177	ILMN_1812759	7.6491	0.03353	1.5081	5.0850	1.3265	GCH1	2643
178	ILMN_1705679	10.2585	0.03355	0.6892	-5.0809	1.3190	SAFB2	9667
179	ILMN_3200322	9.7629	0.03365	1.4268	5.0764	1.3110	LOC387791	387791
180	ILMN_2160005	8.8035	0.03371	0.6309	-5.0699	1.2993	NUMA1	4926
181	ILMN_1664303	10.2425	0.03371	1.3678	5.0723	1.3037	HTATIP2	10553
182	ILMN_1676745	8.9560	0.03382	0.7177	-5.0637	1.2883	ZNF142	7701
183	ILMN_1702197	9.8268	0.03382	0.7246	-5.0582	1.2784	C9orf140	89958
184	ILMN_2067607	7.7504	0.03382	1.4073	5.0570	1.2763	TMEM106B	54664
185	ILMN_2415439	10.0036	0.03382	1.4110	5.0542	1.2713	NAE1	8883
186	ILMN_1798886	9.1365	0.03382	1.7120	5.0562	1.2749	NUDT21	11051
187	ILMN_3243156	9.2764	0.03398	0.7011	-5.0480	1.2602	AHNAK2	113146
188	ILMN_1747281	10.3313	0.03398	0.7229	-5.0464	1.2574	EVI5L	115704
189	ILMN_1814971	9.4503	0.03402	0.7289	-5.0431	1.2515	TCF25	22980
190	ILMN_3241021	9.2191	0.03410	1.6316	5.0392	1.2444	RNY4	6086
191	ILMN_1764861	10.1344	0.03431	1.3742	5.0334	1.2340	ISOC1	51015
192	ILMN_1760201	12.5480	0.03477	0.7190	-5.0240	1.2172	DNMT1	1786
193	ILMN_2367710	9.4349	0.03622	0.6433	-4.9882	1.1529	PKN1	5585
194	ILMN_2383305	9.7255	0.03622	0.6506	-4.9875	1.1516	GPATCH4	54865
195	ILMN_1796762	8.8100	0.03622	0.7015	-4.9897	1.1555	CCDC102A	92922
196	ILMN_1714327	8.7893	0.03622	0.7213	-4.9887	1.1539	SETD1A	9739
197	ILMN_1800602	8.8152	0.03622	1.3629	4.9934	1.1623	GCA	25801
198	ILMN_2186482	10.2366	0.03622	1.3853	4.9894	1.1551	TMED7	51014
199	ILMN_2087989	8.7434	0.03623	1.4083	4.9847	1.1466	ZFAND1	79752
200	ILMN_1735052	9.9579	0.03675	0.7198	-4.9750	1.1291	ULK1	8408
201	ILMN_1654861	9.8239	0.03697	0.7176	-4.9669	1.1146	ACO2	50
202	ILMN_3229324	9.3837	0.03697	1.3677	4.9691	1.1185	SGK1	6446
203	ILMN_1703650	9.0293	0.03707	0.7270	-4.9622	1.1061	TNIP1	10318
204	ILMN_1801913	10.5690	0.03707	1.3902	4.9583	1.0990	PPIH	10465
205	ILMN_3283449	10.1988	0.03707	1.4722	4.9580	1.0984	LOC440991	440991
206	ILMN_1687921	11.5941	0.03709	0.7330	-4.9552	1.0935	JMJD8	339123
207	ILMN_1682139	10.1853	0.03730	0.7197	-4.9478	1.0801	RAI14	26064
208	ILMN_1652003	8.2865	0.03730	1.3909	4.9475	1.0795	GNG10	2790
209	ILMN_1766505	8.9637	0.03762	1.5231	4.9407	1.0673	COMMD10	51397
210	ILMN_2334210	8.8960	0.03769	0.6636	-4.9326	1.0527	ITGB4	3691
211	ILMN_1779185	9.6235	0.03769	0.7363	-4.9348	1.0566	CYTSA	23384
212	ILMN_1813246	9.8435	0.03769	1.4258	4.9328	1.0530	LOC728554	728554
213	ILMN_2094266	8.3552	0.03790	0.6974	-4.9131	1.0174	HES2	54626
214	ILMN_2359211	8.8406	0.03790	0.7034	-4.8952	0.9850	AP2A1	160
215	ILMN_1696360	8.3618	0.03790	0.7096	-4.9022	0.9977	CTSB	1508
216	ILMN_1763875	11.1402	0.03790	0.7112	-4.8841	0.9650	ABCF1	23
217	ILMN_1722059	9.8970	0.03790	0.7117	-4.8847	0.9661	SAFB	6294
218	ILMN_1785618	9.8955	0.03790	0.7123	-4.8917	0.9787	SMTN	6525

219	ILMN_1666659	7.3760	0.03623	0.7292	-4.9994	1.0719	PCDHA1	56147	219	ILMN_1860638	10.1100	0.03790	0.7166	-4.8909	0.9772		NA
220	ILMN_1780711	9.2453	0.03623	0.7354	-4.9980	1.0694	LOC390530	390530	220	ILMN_1655694	9.6122	0.03790	0.7179	-4.9093	1.0106	LOC642031	642031
221	ILMN_1812105	9.5904	0.03623	0.7461	-5.0024	1.0771	PIP5K2B	8396	221	ILMN_2360784	10.9619	0.03790	0.7217	-4.8855	0.9675	RRBP1	6238
222	ILMN_1666325	7.7146	0.03631	1.3030	4.9945	1.0632	ALG10B	144245	222	ILMN_2059535	9.7213	0.03790	0.7264	-4.9037	1.0005	PPM1F	9647
223	ILMN_1797341	9.8941	0.03635	0.7519	-4.9878	1.0515	ARID1A	8289	223	ILMN_1683980	10.0902	0.03790	0.7282	-4.9097	1.0113	PLEKHM2	23207
224	ILMN_2175465	11.6497	0.03635	1.3114	4.9869	1.0499	RSL24D1	51187	224	ILMN_1655154	12.6643	0.03790	0.7334	-4.9112	1.0140	PTBP1	5725
225	ILMN_1743770	9.7965	0.03635	1.4294	4.9876	1.0510	SLC25A14	9016	225	ILMN_2390227	8.9158	0.03790	0.7370	-4.8858	0.9680	TBC1D9B	23061
226	ILMN_1654861	9.7813	0.03636	0.7228	-4.9730	1.0253	ACO2	50	226	ILMN_1655177	9.5514	0.03790	0.7398	-4.8858	0.9679	PIK4CA	5297
227	ILMN_1667034	10.1694	0.03636	0.7466	-4.9745	1.0279	PDPR	55066	227	ILMN_1691395	7.4116	0.03790	1.3536	4.9038	1.0007	ZBTB11	27107
228	ILMN_1790782	9.0844	0.03636	0.7660	-4.9781	1.0344	MED16	10025	228	ILMN_2332558	9.5292	0.03790	1.3543	4.9041	1.0012	ARL5A	26225
229	ILMN_1757636	8.8872	0.03636	1.3050	4.9789	1.0357	C5orf35	133383	229	ILMN_1682774	10.1671	0.03790	1.3646	4.8964	0.9872	C13orf27	93081
230	ILMN_1803788	9.5323	0.03636	1.3261	4.9808	1.0391	LGALS3	3958	230	ILMN_2217809	11.1716	0.03790	1.3853	4.9173	1.0250	TMEM126A	84233
231	ILMN_1696003	7.8645	0.03636	1.3350	4.9745	1.0280	GNAI3	2773	231	ILMN_1655921	8.3275	0.03790	1.3947	4.8977	0.9895	GTF2E1	2960
232	ILMN_2343332	8.7077	0.03666	1.4920	4.9664	1.0137	TAF9	6880	232	ILMN_1673673	10.2096	0.03790	1.4174	4.9072	1.0069	PBK	55872
233	ILMN_2214997	10.0811	0.03695	0.6728	-4.9578	0.9985	LRRFIP1	9208	233	ILMN_1803799	9.6289	0.03881	1.5030	4.8699	0.9392	LOC649555	649555
234	ILMN_3188174	7.7863	0.03695	1.4281	4.9598	1.0021	LOC100129067	100129067	234	ILMN_1782331	9.6156	0.03918	0.7003	-4.8594	0.9201	TDG	6996
235	ILMN_1743829	10.2326	0.03699	0.7575	-4.9550	0.9935	ATXN2	6311	235	ILMN_3309759	7.7400	0.03918	1.4070	4.8590	0.9194	VTRNA1-1	56664
236	ILMN_1676449	9.6822	0.03705	0.7201	-4.9520	0.9882	SLIT2	9353	236	ILMN_1744611	10.1856	0.03918	1.4168	4.8588	0.9190	WDSOF1	25879
237	ILMN_3249240	8.6872	0.03743	1.3174	4.9446	0.9750	C4orf46	201725	237	ILMN_2352190	8.9801	0.03938	0.6833	-4.8540	0.9103	CLIP2	7461
238	ILMN_2085760	10.1327	0.03763	0.6431	-4.9395	0.9661	ARPC1B	10095	238	ILMN_1657111	9.5218	0.04070	0.7025	-4.8334	0.8729	C14orf78	113146
239	ILMN_2330495	10.2566	0.03773	0.7201	-4.9359	0.9598	OCIAD1	54940	239	ILMN_2132982	10.0028	0.04070	0.7064	-4.8310	0.8685	IGFBP5	3488
240	ILMN_2357386	12.5129	0.03784	0.7701	-4.9323	0.9533	FKTN	2218	240	ILMN_3289262	9.2095	0.04070	1.3578	4.8328	0.8717	LOC100131261	100131261
241	ILMN_1806122	10.1221	0.03796	0.7484	-4.9285	0.9465	CHD8	57680	241	ILMN_2415179	11.0083	0.04079	0.6887	-4.8259	0.8592	CLSTN1	22883
242	ILMN_1739045	8.1354	0.03848	1.3256	4.9192	0.9301	LOC647009	647009	242	ILMN_3308138	8.0902	0.04079	1.4152	4.8257	0.8589	RNU4-2	26834
243	ILMN_1784352	10.9269	0.03869	0.7380	-4.9121	0.9176	CCM2	83605	243	ILMN_1756572	10.6081	0.04102	1.3541	4.8209	0.8501	COQ2	27235
244	ILMN_1732967	10.0199	0.03869	0.7546	-4.9124	0.9181	KIAA1949	170954	244	ILMN_1912083	7.8662	0.04105	0.6986	-4.8177	0.8443		NA
245	ILMN_3282395	8.1240	0.03875	1.4930	4.9092	0.9124	LOC646966	646966	245	ILMN_2393450	10.7604	0.04105	0.7304	-4.8143	0.8381	C14orf173	64423
246	ILMN_1781121	8.9952	0.03918	1.3103	4.9014	0.8985	TWISTNB	221830	246	ILMN_1659297	9.0848	0.04105	1.3645	4.8146	0.8386	FZD6	8323
247	ILMN_1718853	10.3653	0.03980	1.3479	4.8911	0.8802	UQCRC2	7385	247	ILMN_1691432	9.5792	0.04116	0.7234	-4.8104	0.8310	PRDM4	11108
248	ILMN_1695719	10.1371	0.04005	0.7134	-4.8836	0.8670	EIF2C2	27161	248	ILMN_1734602	10.4468	0.04116	0.7370	-4.8040	0.8192	SRRM2	23524
249	ILMN_1717180	9.1438	0.04005	1.4176	4.8840	0.8677	MTMR6	9107	249	ILMN_1773620	9.2418	0.04116	0.7442	-4.8061	0.8231	SMARCC2	6601
250	ILMN_1804530	11.0769	0.04015	0.7421	-4.8775	0.8560	LOC653888	653888	250	ILMN_1786041	10.1745	0.04116	1.3619	4.8029	0.8172	ASB9	140462
251	ILMN_2143795	12.5239	0.04015	1.3070	4.8769	0.8550	MGC4677	112597	251	ILMN_2224486	10.5953	0.04116	1.3747	4.8037	0.8188	C3orf14	57415
252	ILMN_1734194	10.0023	0.04015	1.3104	4.8741	0.8500	EXOSC3	51010	252	ILMN_1802611	9.0385	0.04132	0.6891	-4.7957	0.8042	SPEN	23013
253	ILMN_1708160	9.0588	0.04015	1.3500	4.8747	0.8512	KPNA2	3838	253	ILMN_1798081	8.8879	0.04132	0.7299	-4.7987	0.8096	PTPRF	5792
254	ILMN_1773247	9.7900	0.04048	1.3708	4.8677	0.8387	ZNF410	57862	254	ILMN_1674706	10.1446	0.04132	1.3663	4.7949	0.8028	MTHFD2	10797
255	ILMN_1696568	8.1561	0.04066	1.2955	4.8625	0.8294	ATP2C1	27032	255	ILMN_1714216	7.8331	0.04134	0.7248	-4.7907	0.7951	TSC2	7249
256	ILMN_3272476	8.1898	0.04066	1.3676	4.8598	0.8246	LOC100130624	100130624	256	ILMN_1679949	10.7794	0.04134	0.7401	-4.7915	0.7966	SLC25A23	79085
257	ILMN_1744611	10.2660	0.04066	1.4772	4.8593	0.8238	WDSOF1	25879	257	ILMN_3240222	9.2627	0.04161	0.7166	-4.7805	0.7764	PRAGMIN	157285
258	ILMN_1738401	9.5512	0.04135	0.7605	-4.8486	0.8047	FOXC1	2296	258	ILMN_1802397	9.9458	0.04161	0.7310	-4.7796	0.7748	GNA11	2767
259	ILMN_1755419	8.2428	0.04166	1.3254	4.8427	0.7941	EIF1AX	1964	259	ILMN_1685397	11.9653	0.04161	0.7334	-4.7803	0.7761	ITGA3	3675
260	ILMN_1716279	7.9869	0.04180	0.6526	-4.8387	0.7871	CENPE	1062	260	ILMN_3243859	13.0714	0.04161	1.3416	4.7818	0.7787	NDUFB9	4715
261	ILMN_2043918	9.9657	0.04180	1.2999	4.8370	0.7839	DLEU1	10301	261	ILMN_1748616	10.6311	0.04169	0.7274	-4.7768	0.7696	GTF2F1	2962
262	ILMN_2326712	9.9508	0.04290	0.6950	-4.8203	0.7541	BACE2	25825	262	ILMN_3237966	9.4297	0.04229	0.6984	-4.7657	0.7495	FBXL11	22992
263	ILMN_1726981	11.2658	0.04290	0.7340	-4.8138	0.7425	VEGFB	7423	263	ILMN_2308582	12.7672	0.04229	0.7347	-4.7640	0.7464	CYB5R3	1727
264	ILMN_1709634	11.5866	0.04290	0.7691	-4.8162	0.7469	CMBL	134147	264	ILMN_1772492	10.9493	0.04229	0.7348	-4.7638	0.7459	MCART1	92014
265	ILMN_1656691	8.1873	0.04290	1.3248	4.8183	0.7507	FBXO4	26272	265	ILMN_1697597	9.0971	0.04247	0.7192	-4.7505	0.7216	KIAA0494	9813
266	ILMN_1788462	10.4851	0.04290	1.3326	4.8155	0.7457	AMD1	262	266	ILMN_1796063	10.1221	0.04247	0.7302	-4.7516	0.7237	TRIM44	54765
267	ILMN_1768913	7.1035	0.04328	1.3086	4.8072	0.7308	TSN	7247	267	ILMN_1704753	9.5247	0.04247	0.7318	-4.7598	0.7387	EPAS1	2034
268	ILMN_1701204	10.0231	0.04331	0.7249	-4.8050	0.7269	VEGFC	7424	268	ILMN_1745329	9.7274	0.04247	0.7355	-4.7556	0.7309	PRR14	78994
269	ILMN_2150465	9.4557	0.04343	0.7117	-4.7996	0.7172	C5orf28	64417	269	ILMN_3292551	11.1286	0.04247	0.7419	-4.7538	0.7277	LOC286157	286157
270	ILMN_1796762	8.7975	0.04343	0.7401	-4.8005	0.7188	CCDC102A	92922	270	ILMN_1665290	8.1273	0.04247	1.4351	4.7579	0.7351	LOC643995	643995
271	ILMN_1735052	9.9414	0.04360	0.7513	-4.7938	0.7068	ULK1	8408	271	ILMN_1672589	9.4393	0.04273	0.7334	-4.7437	0.7092	SEMA4B	10509
272	ILMN_1679949	10.7594	0.04360	0.7646	-4.7920	0.7036	SLC25A23	79085	272	ILMN_1701374	8.8213	0.04273	1.3743	4.7449	0.7113	NUP35	129401
273	ILMN_1666007	7.3783	0.04360	1.3863	4.7937	0.7066	TRAPPC6B	122553	273	ILMN_1698968	9.2035	0.04287	0.7392	-4.7402	0.7028	ASXL2	55252
274	ILMN_1692486	9.9972	0.04361	1.3063	4.7855	0.6919	ZNRD1	30834	274	ILMN_1784871	12.0087	0.04291	0.7172	-4.7313	0.6865	FASN	2194
275	ILMN_1725594	10.1204	0.04361	1.3142	4.7845	0.6902	FAM188A	80013	275	ILMN_1800530	9.7433	0.04291	0.7260	-4.7297	0.6835	CENTG2	116987
276	ILMN_1768050	10.4839	0.04361	1.3937	4.7843	0.6899	SCOC	60592	276	ILMN_3248343	8.3132	0.04291	0.7310	-4.7288	0.6820	INO80	54617
277	ILMN_1660840	10.8135	0.04361	1.3966	4.7858	0.6926	PPPDE1	51029	277	ILMN_1676449	9.7382	0.04291	0.7310	-4.7294	0.6831	SLIT2	9353
278	ILMN_1698441	7.8576	0.04368	0.7483	-4.7816	0.6850	MYST4	23522	278	ILMN_1792712	8.6970	0.04291	1.3880	4.7304	0.6849	LOC201725	201725
279	ILMN_3251592	8.8410	0.04400	0.6901	-4.7741	0.6716	C9orf140	89958	279	ILMN_1715886	8.9644	0.04291	1.4040	4.7322	0.6882	CNOT7	29883
280	ILMN_1667893	10.9322	0.04400	0.7512	-4.7758	0.6746	TNS3	64759	280	ILMN_1784860	8.5238	0.04294	1.3393	4.7267	0.6780	RFC3	5983
281	ILMN_1795243	11.7639	0.04402	1.3659	4.7721	0.6679	LOC220433	220433	281	ILMN_1765704	8.3774	0.04309	0.7035	-4.7213	0.6682	CDC2L1	984
282	ILMN_3178890	8.5058	0.04466	1.3481	4.7628	0.6513	LOC100130624	100130624	282	ILMN_1699476	9.6302	0.04309	1.3662	4.7220	0.6695	RPE	6120
283	ILMN_2278636	9.4140	0.04512	0.5652	-4.7396	0.6097	CUTL1	1523	283	ILMN_2087702	11.8233	0.04315	0.6955	-4.7164	0.6591	MYH9	4627
284	ILMN_3244457	9.7876	0.04512	0.6748	-4.7488	0.6262	EHBP1L1	254102	284	ILMN_2404085	9.2208	0.04315	0.7199	-4.7183	0.6626	CLIP1	6249
285	ILMN_2390821	8.9174	0.04512	0.6939	-4.7417	0.6134	THOC2	57187	285	ILMN_1679912	9.2027	0.04315	1.3647	4.7154	0.6574	DPH3	285381
286	ILMN_1769473	9.1372	0.04512	0.7317	-4.7479	0.6245	SETD2	29072	286	ILMN_1721022	11.7130	0.04323	0.6929	-4.7127	0.6524	SHC1	6464
287	ILMN_3225102	10.1830	0.04512	0.7550	-4.7548	0.6369	ZNF738	148203	287	ILMN_2408179	8.7151	0.04326	0.7195	-4.7088	0.6453	BAT2	7916
288	ILMN_3248575	7.4090	0.04512	1.3117	4.7438	0.6172	SNORA42	677823	288	ILMN_2347949	11.6546	0.04326	0.7447	-4.7098	0.6470	G6PD	2539
289	ILMN_2226415	8.6527	0.04512	1.3334	4.7496	0.6277	LOC440145	440145	289	ILMN_1722872	12.0169	0.04345	0.6758	-4.7049	0.6381	MYH9	4627
290	ILMN_1723212	10.1483	0.04512	1.3711	4.7402	0.6108	SFRS3	6428	290	ILMN_1722634	12.2644	0.04355	0.7400	-4.7020	0.6328	NUCB1	4924
291	ILMN_1756860	10.1474	0.04512	1.3879	4.7413	0.6127	TXNL1	9352	291	ILMN_1662130	11.3440	0.04373	0.7319	-4.6978	0.6250	LOC730316	730316
292	ILMN_1801913	10.6223	0.04512	1.4015	4.7484	0.6256	PPIH	10465	292	ILMN_1758146	10.2371	0.04373	0.7401	-4.6915	0.6134	SIRPA	140885
293	ILMN_1696065	11.7387	0.04522	0.7523	-4.7349	0.6013	SDF4	51150	293	ILMN_2169983	7.8594	0.04373	1.3528	4.6922	0.6148	ATAD1	84896
294	ILMN_1786041	10.1848	0.04522	1.2987	4.7350	0.6015	ASB9	140462	294	ILMN_2344455	9.9172	0.04373	1.3655	4.6927	0.6156	G3BP1	10146
295	ILMN_1670899	11.3716	0.04538	0.7484	-4.7313	0.5949	FBN2	2201	295	ILMN_1795243	11.7468	0.04373	1.4333	4.6924	0.6151	LOC220433	220433
296	ILMN_1681260	12.5464	0.04582	0.7469	-4.7204	0.5752	LOC643272	643272	296	ILMN_1769517	10.2755	0.04392	0.7203	-4.6677	0.5697	PRKDC	5591
297	ILMN_2363165	7.4448	0.04582	0.7660	-4.7197	0.5739	TACC2	10579	297	ILMN_1746579	8.9682	0.04392	0.7212	-4.6759	0.5848	UBE2O	63893
298	ILMN_2075436	9.7067	0.04582	1.3341	4.7194	0.5734	PDIA3P	171423	298	ILMN_1728426	9.3505	0.04392	0.7218	-4.6744	0.5820	INPPL1	3636
299	ILMN_1686811	12.9774	0.04582	1.4533	4.7246	0.5827	LOC402644	402644	299	ILMN_1782385	10.6670	0.04392	0.7300	-4.6737	0.5808	POLR2A	5430
300	ILMN_1765696	13.1328	0.04590	0.7573	-4.7127	0.5614	FARSLB	10056	300	ILMN_1680134	12.3518	0.04392	0.7387	-4.6873	0.6057	CARM1	10498
301	ILMN_3304405	7.7820	0.04590	1.3027	4.7134	0.5627	NCRNA00081	92482	301	ILMN_1757882	9.5581	0.04392	0.7436	-4.6756	0.5842	PPP1R16A	84988
302	ILMN_1758938	7.6845	0.04590	1.3198	4.7101	0.5567	SLC31A2	1318	302	ILMN_1762262	9.5989	0.04392	1.3349	4.6806	0.5934	PKIA	5569
303	ILMN_2217809	11.1847	0.04590	1.3218	4.7112	0.5586	TMEM126A	84233	303	ILMN_3188174	7.7029	0.04392	1.3510	4.6804	0.5931	LOC100129067	100129067
304	ILMN_2195914	9.2583	0.04590	1.4181	4.7152	0.5658	GGH	8836	304	ILMN_1755075	8.2942	0.04392	1.3629	4.6679	0.5701	IDI1	3422
305	ILMN_1698968	9.1645	0.04592	0.7438	-4.7075	0.5520	ASXL2	55252	305	ILMN_1777564	11.1393	0.04392	1.3861	4.6841	0.5998	MAD2L1	4085
306	ILMN_2316974	11.3801	0.04592	0.7537	-4.7065	0.5502	LILRB1	10859	306	ILMN_3211302	7.9262	0.04392	1.4049	4.6754	0.5839	LOC646909	646909
307	ILMN_1711078	7.5024	0.04603	0.7066	-4.6934	0.5265	CDC2L2	728642	307	ILMN_1679025	8.7643	0.04392	1.4106	4.6693	0.5726	LOC641848	641848
308	ILMN_1734602	10.4101	0.04603	0.7445	-4.6931	0.5261	SRRM2	23524	308	ILMN_2343332	8.6219	0.04392	1.4210	4.6696	0.5731	TAF9	6880
309	ILMN_2406035	8.8504	0.04603	0.7455	-4.6920	0.5241	LAMA3	3909	309	ILMN_1813775	9.6935	0.04427	0.7419	-4.6613	0.5579	GAK	2580
310	ILMN_3248343	8.2835	0.04603	0.7468	-4.6934	0.5266	INO80	54617	310	ILMN_1690282	8.5314	0.04427	1.3394	4.6605	0.5565	CRADD	8738
311	ILMN_1727055	10.2467	0.04603	1.2808	4.6944	0.5284	C12orf48	55010	311	ILMN_1712707	10.1723	0.04428	0.7107	-4.6588	0.5533	ABHD8	79575
312	ILMN_2131882	8.0286	0.04603	1.3017	4.7016	0.5414	DPY30	84661	312	ILMN_1774547	11.7775	0.04439	0.7196	-4.6550	0.5463	MPRIP	23164
313	ILMN_1664833	10.6028	0.04603	1.3539	4.7004	0.5392	MRPL50	54534	313	ILMN_1737283	8.9100	0.04439	1.3565	4.6543	0.5451	MGC39900	286527
314	ILMN_1664910	8.1344	0.04603	1.4415	4.6979	0.5347	RPSA	3921	314	ILMN_2147105	6.9659	0.04459	0.7273	-4.6505	0.5381	LOC440348	440348
315	ILMN_1809583	8.6478	0.04604	0.7480	-4.6869	0.5150	CREBBP	1387	315	ILMN_1666376	7.9450	0.04461	0.7465	-4.6471	0.5319	TRIM56	81844
316	ILMN_1722239	9.1800	0.04604	1.3043	4.6871	0.5153	TIMM8A	1678	316	ILMN_1723212	10.1092	0.04461	1.3865	4.6475	0.5325	SFRS3	6428
317	ILMN_3236130	8.9176	0.04604	1.3815	4.6880	0.5168	LOC100132547	100132547	317	ILMN_1709257	9.1458	0.04467	0.7251	-4.6430	0.5242	DSCR6	53820
318	ILMN_1654851	8.6790	0.04608	1.3007	4.6849	0.5114	FAM134A	79137	318	ILMN_1737170	8.9709	0.04467	0.7309	-4.6448	0.5275	FLII	2314
319	ILMN_1681641	8.2820	0.04609	1.2795	4.6831	0.5081	DLEU1	10301	319	ILMN_1799853	8.2820	0.04467	1.3825	4.6418	0.5220	SPTLC1	10558
320	ILMN_1724533	7.6002	0.04609	1.3559	4.6815	0.5052	LY96	23643	320	ILMN_1725700	7.6036	0.04498	0.7512	-4.6368	0.5128	MOV10	4343
321	ILMN_1696622	9.2240	0.04623	1.3260	4.6785	0.4997	SLC38A6	145389	321	ILMN_1695719	10.1816	0.04508	0.7082	-4.6279	0.4965	EIF2C2	27161
322	ILMN_3246766	7.8176	0.04634	0.7008	-4.6756	0.4945	LOC100132247	100132247	322	ILMN_1769473	9.1644	0.04508	0.7094	-4.6322	0.5043	SETD2	29072
323	ILMN_1771697	9.2329	0.04653	0.7485	-4.6689	0.4825	VRK3	51231	323	ILMN_3198499	8.0900	0.04508	1.3647	4.6292	0.4989	LOC654350	654350
324	ILMN_1689119	8.8537	0.04653	0.7694	-4.6688	0.4821	ZC3H5	85451	324	ILMN_2072296	12.3989	0.04508	1.3875	4.6299	0.5002	CKS2	1164
325	ILMN_3229552	9.4285	0.04653	1.3180	4.6715	0.4871	MED7	9443	325	ILMN_2068104	9.3577	0.04508	1.4260	4.6317	0.5034	TFPI2	7980
326	ILMN_2408645	9.7376	0.04654	1.3502	4.6670	0.4790	LOC653566	653566	326	ILMN_1728224	9.1019	0.04521	0.7170	-4.6249	0.4909	OGFR	11054
327	ILMN_2096191	10.3382	0.04658	1.3598	4.6650	0.4754	AASDHPPT	60496	327	ILMN_1666325	7.7023	0.04530	1.3627	4.6224	0.4863	ALG10B	144245
328	ILMN_1730464	8.4888	0.04661	1.3312	4.6631	0.4720	DNAL1	83544	328	ILMN_1781419	9.2369	0.04558	1.3343	4.6163	0.4751	C11orf73	51501
329	ILMN_1677697	12.4281	0.04669	1.3574	4.6608	0.4677	LOC441377	441377	329	ILMN_2408645	9.7136	0.04558	1.3963	4.6173	0.4768	LOC653566	653566
330	ILMN_2281069	7.6509	0.04676	0.7217	-4.6553	0.4578	GPATCH4	54865	330	ILMN_1666512	9.6537	0.04569	0.7269	-4.6109	0.4651	SKIV2L	6499

331	ILMN_1708414	9.2504	0.04676	0.7309	-4.6555	0.4581	GNL3L	54552
332	ILMN_3289262	9.2384	0.04676	1.3295	4.6581	0.4628	LOC100131261	100131261
333	ILMN_1702447	11.0031	0.04692	0.7329	-4.6520	0.4519	IGF2BP2	10644
334	ILMN_2075927	8.9237	0.04751	0.7719	-4.6441	0.4375	STK40	83931
335	ILMN_2157277	12.1528	0.04768	0.7698	-4.6397	0.4297	AKR1D1	6718
336	ILMN_1699503	9.2364	0.04768	1.2967	4.6392	0.4287	UBE2D2	7322
337	ILMN_3279414	9.4371	0.04791	1.4390	4.6352	0.4215	LOC440595	440595
338	ILMN_1669268	8.3261	0.04802	0.7260	-4.6298	0.4118	MEX3D	399664
339	ILMN_2044832	10.0503	0.04802	0.7632	-4.6322	0.4162	NOP56	10528
340	ILMN_1732688	9.9642	0.04802	1.3122	4.6295	0.4113	DUT	1854
341	ILMN_1694100	7.3032	0.04843	1.3229	4.6228	0.3990	PRIM2	5558
342	ILMN_2151441	8.7502	0.04843	1.3309	4.6222	0.3980	FAM103A1	83640
343	ILMN_2100458	8.3742	0.04847	1.2987	4.6203	0.3945	RFESD	317671
344	ILMN_2363658	10.0153	0.04851	0.6576	-4.6168	0.3883	PXDN	7837
345	ILMN_1764158	7.8799	0.04851	0.7603	-4.6174	0.3893	NLGN2	57555
346	ILMN_3245869	10.9726	0.04851	1.2970	4.6154	0.3857	LOC440957	440957
347	ILMN_1770892	11.3095	0.04852	0.6998	-4.6120	0.3796	YY1	7528
348	ILMN_1764861	10.1593	0.04852	1.3348	4.6112	0.3781	ISOC1	51015
349	ILMN_2246083	7.6871	0.04852	1.4306	4.6108	0.3774	C7orf28B	221960
350	ILMN_2049021	12.0396	0.04886	1.3028	4.6058	0.3683	PTTG3P	26255
351	ILMN_2169839	10.9808	0.04922	1.3018	4.6006	0.3589	CNBP	7555
352	ILMN_1745034	8.9963	0.04925	1.2765	4.5988	0.3556	SLC11A2	4891
353	ILMN_1806486	8.9830	0.04927	1.2998	4.5972	0.3527	LOC389137	389137
354	ILMN_2329735	7.4059	0.04953	0.7689	-4.5930	0.3451	ECM1	1893
355	ILMN_1668052	12.3307	0.04969	0.7764	-4.5900	0.3397	FOXA2	3170
356	ILMN_1652215	9.3913	0.04995	1.4202	4.5858	0.3321	LOC644310	644310

331	ILMN_1691143	7.2665	0.04569	1.3376	4.6135	0.4699	RAB18	22931
332	ILMN_3289730	9.0697	0.04569	1.4096	4.6106	0.4646	LOC100132199	100132199
333	ILMN_1660858	8.4163	0.04592	0.7460	-4.6057	0.4555	RIN1	9610
334	ILMN_1726516	10.3963	0.04592	0.7486	-4.6051	0.4543	SCRIB	23513
335	ILMN_1859946	11.8941	0.04611	1.3573	4.6015	0.4478		NA
336	ILMN_1671911	10.2370	0.04617	0.7040	-4.5994	0.4438	MTA1	9112
337	ILMN_1857017	9.0698	0.04637	0.6896	-4.5955	0.4366		NA
338	ILMN_3238137	8.0105	0.04637	1.3578	4.5944	0.4345	LOC100133008	100133008
339	ILMN_2371169	11.5712	0.04660	0.6754	-4.5745	0.3979	ZYX	7791
340	ILMN_1698419	11.0778	0.04660	0.6766	-4.5811	0.4100	NCOR2	9612
341	ILMN_1810055	9.2484	0.04660	0.6787	-4.5787	0.4056	ITFG3	83986
342	ILMN_1718610	9.1804	0.04660	0.7316	-4.5824	0.4125	ARHGAP17	55114
343	ILMN_1663090	7.9010	0.04660	0.7478	-4.5827	0.4131	SON	6651
344	ILMN_1786396	7.7886	0.04660	0.7480	-4.5777	0.4037	ZZEF1	23140
345	ILMN_1672504	10.6517	0.04660	0.7527	-4.5896	0.4257	PDXK	8566
346	ILMN_1766657	8.1794	0.04660	1.3302	4.5826	0.4128	STOM	2040
347	ILMN_3227604	7.6462	0.04660	1.3348	4.5751	0.3990	LOC729342	729342
348	ILMN_1790973	9.1750	0.04660	1.3358	4.5830	0.4135	CDS2	8760
349	ILMN_3280496	8.1770	0.04660	1.3507	4.5857	0.4186	LOC100131526	100131526
350	ILMN_3245517	11.0125	0.04660	1.4015	4.5759	0.4004	LOC100134273	100134273
351	ILMN_1706521	11.1663	0.04689	0.7406	-4.5700	0.3895	CSNK1G2	1455
352	ILMN_1667893	10.9722	0.04756	0.7495	-4.5615	0.3738	TNS3	64759
353	ILMN_1743275	8.2612	0.04759	0.7089	-4.5528	0.3577	SH3RF3	344558
354	ILMN_1771987	10.4964	0.04759	0.7417	-4.5557	0.3630	SLC44A2	57153
355	ILMN_1732151	11.4275	0.04759	0.7528	-4.5545	0.3609	COL6A1	1291
356	ILMN_2252136	10.4406	0.04759	1.3415	4.5533	0.3586	YWHAE	7531
357	ILMN_1751760	7.4410	0.04759	1.3751	4.5555	0.3627	BCAS2	10286
358	ILMN_3239574	8.4694	0.04759	1.4702	4.5585	0.3682	SNORD3A	780851
359	ILMN_2128293	9.1586	0.04790	1.4150	4.5482	0.3491	APIP	51074
360	ILMN_1706583	9.6275	0.04810	1.3655	4.5439	0.3411	DLAT	1737
361	ILMN_1701854	9.8411	0.04810	1.3681	4.5434	0.3402	GNG5	2787
362	ILMN_1766981	10.4598	0.04812	1.3221	4.5419	0.3374	UNC50	25972
363	ILMN_1810289	11.3773	0.04875	0.7366	-4.5329	0.3208	FER1L3	26509
364	ILMN_3284177	8.4839	0.04875	1.4501	4.5327	0.3203	LOC100132425	100132425
365	ILMN_1719985	10.5579	0.04880	0.7294	-4.5307	0.3167	FEM1A	55527
366	ILMN_1683313	11.1708	0.04904	0.7015	-4.5243	0.3048	ST3GAL1	6482
367	ILMN_2412380	8.4736	0.04904	1.3691	4.5254	0.3069	TSC22D1	8848
368	ILMN_3188076	11.6037	0.04904	1.6150	4.5243	0.3047	LOC100128060	100128060
369	ILMN_1667034	10.2074	0.04923	0.7412	-4.5210	0.2987	PDPR	55066
370	ILMN_1738093	9.2028	0.04929	0.7566	-4.5191	0.2952	TMEM118	84900
371	ILMN_1703246	8.6245	0.04947	0.7162	-4.5120	0.2819	SBF1	6305
372	ILMN_1698225	7.8815	0.04947	0.7350	-4.5141	0.2858	MYO5A	4644
373	ILMN_2349393	11.5172	0.04947	0.7455	-4.5121	0.2822	MDK	4192
374	ILMN_2347044	7.9814	0.04947	1.3192	4.5133	0.2844	SLC25A14	9016
375	ILMN_2410924	8.5868	0.04953	1.4511	4.5100	0.2783	PLOD2	5352
376	ILMN_3216794	7.5503	0.04955	1.3478	4.5080	0.2745	LOC644860	644860
377	ILMN_2149400	7.7792	0.04955	1.3741	4.5072	0.2731	SPC25	57405
378	ILMN_1660793	9.1601	0.04975	0.7434	-4.5026	0.2645	PAQR4	124222
379	ILMN_1692790	8.6737	0.04975	1.3378	4.5027	0.2648	ITGB3BP	23421

Supplementary Table 5: Downstream processes assessed to the downregulated genes upon MELK and UBE2C RNAi-based knockdown in PC3 or overlapping genes between both experiments.

MELK knockdown deregulated genes

Gene regulation	GO ID	GO Name	Genes	Group count	Total count	p-value
Down	GO:0016568	chromatin modification	carm1; crebbp; setd2; trrap; myst4; arid1a; chd8; smarcc2; smarca4	9	219	2.10E-05
Down	GO:0009790	embryonic development	lama5; slit2; foxc1; fbn2; vegfc; lrp5; lama3; chd8; smarca4	9	235	3.42E-05
Down	GO:0016573	histone acetylation;	myst4; trrap; crebbp	3	13	0.000454
Down	GO:0016477	cell migration	lama5; lrp5; vegfc; lama3; nr2f1; slit2; foxc1	7	233	0.00104

UBE2C knockdown deregulated genes

Gene regulation	GO ID	GO Name	Genes	Group count	Total count	p-value
Down	GO:0016568	chromatin modification	carm1; trrap; ep400; smarcc2; fbxl11; smarca4; setd2; setd1a	8	219	0.000969
Down	GO:0030029	actin filament-based process	abl1; myo5a; c14orf173; cdc42bpb; actn4; myo9b; cdc42bpa; myh9; sptan1	9	260	0.000583
Down	GO:0007067	mitosis	aspm; clip1; shc1; cdc2l1; cenpe; numa1; ube2c; zzef1	8	239	0.00149
Down	GO:0007155	cell adhesion	clstn1; itga3; lama5; abl1; col6a2; inppl1; zyx; itgb4; ptprm; sirpa; lpp; ptprf; col6a1; cd99	14	960	0.00317
Down	GO:0022403	cell cycle phase	aspm; abl1; clip1; shc1; cdc2l1; cenpe; numa1; ube2c; zzef1	9	369	0.00317

Overlapping genes upon MELK or UBE2C knockdown

Gene regulation	GO ID	GO Name	Genes	Group count	Total count	p-value
Down	GO:0016568	chromatin modification	carm1; trrap; smarcc2; setd2; smarca4	5	219	0.00788
Down	GO:0009790	embryonic development	lrp5; lama5; slit2; smarca4; fbn2	5	235	0.00837

Supplementary Table 6: Differentially expressed genes upon 0.5μM siomycin A treatment and subsequent microarray analysis.

Siomycin A treatment in LNCaP and LIMMA analysis

ID Ref	AveExpr	adj.P.Val	Fold Change	t	B	Gene symbol	Entrez Gene ID
ILMN_1787815	11.4213	1.31E-015	4.0615	32.3984	35.7824	TRIB3	57761
ILMN_1785756	10.4879	3.93E-015	0.3279	-29.2975	33.8375	LOC731314	731314
ILMN_1781943	9.2369	3.93E-015	0.3365	-29.7693	34.1495	FAM83D	81610
ILMN_1786125	9.6722	7.04E-015	0.3203	-28.1364	33.0427	CCNA2	890
ILMN_1661599	11.9678	7.04E-015	3.4401	27.8636	32.8502	DDIT4	54541
ILMN_1806040	10.6390	7.85E-015	0.3205	-27.2648	32.4198	TYMS	7298
ILMN_2413898	8.4843	7.85E-015	0.3498	-26.8533	32.1174	MCM10	55388
ILMN_1731184	9.1626	7.85E-015	0.3793	-26.8811	32.1380	MELK	9833
ILMN_2357438	9.2596	7.85E-015	0.3949	-26.9870	32.2163	AURKA	6790
ILMN_1696911	12.0369	7.85E-015	3.3141	26.9906	32.2189	FTHL8	2501
ILMN_1751444	9.3983	8.45E-015	0.3494	-26.6462	31.9632	NCAPG	64151
ILMN_1746525	11.5950	9.97E-015	2.6083	26.3378	31.7308	FTHL2	2497
ILMN_1680955	9.4578	1.28E-014	0.3864	-25.9427	31.4286	AURKA	6790
ILMN_1790100	8.8404	1.70E-014	0.3499	-25.5162	31.0962	C11orf82	220042
ILMN_1750278	12.0534	2.14E-014	2.6218	25.1664	30.8189	FTHL12	2504
ILMN_1728972	8.8346	2.41E-014	0.3998	-24.9515	30.6463	FAM64A	54478
ILMN_1796589	9.3358	2.55E-014	0.3731	-24.8149	30.5357	TRIP13	9319
ILMN_1710676	9.3890	2.66E-014	0.3300	-24.7044	30.4457	FBXO5	26271
ILMN_2330243	9.2257	3.12E-014	0.3212	-24.4026	30.1977	NUDT1	4521
ILMN_1684217	8.7855	3.12E-014	0.3389	-24.4138	30.2070	AURKB	9212
ILMN_1756326	11.6180	3.20E-014	0.3566	-24.2638	30.0825	CKS2	1164
ILMN_1781942	9.8140	3.20E-014	0.3570	-24.2307	30.0549	HMMR	3161
ILMN_2409298	9.4341	3.20E-014	0.4230	-24.2137	30.0406	NUSAP1	51203
ILMN_2212909	9.8288	3.22E-014	0.3462	-24.1596	29.9955	MELK	9833
ILMN_2160929	10.4766	3.83E-014	0.2360	-23.8274	29.7153	FEN1	2237
ILMN_1683450	9.9108	3.83E-014	0.3200	-23.7967	29.6891	CDCA5	113130
ILMN_3227315	10.8552	3.83E-014	3.5623	23.8166	29.7061	LOC729009	729009
ILMN_1676984	9.5839	3.83E-014	6.3046	23.8636	29.7460	DDIT3	1649
ILMN_1714730	10.3930	4.09E-014	0.3632	-23.6184	29.5367	UBE2C	11065
ILMN_1751776	8.3250	4.09E-014	0.3922	-23.6773	29.5872	CKAP2L	150468
ILMN_2134538	9.7654	4.09E-014	2.8013	23.6126	29.5317	FTHL11	2503
ILMN_2301083	10.7941	4.47E-014	0.3420	-23.4785	29.4163	UBE2C	11065
ILMN_1670353	9.2741	4.47E-014	0.3678	-23.4464	29.3885	RAD51AP1	10635
ILMN_1737728	8.6882	5.12E-014	0.3760	-23.2654	29.2312	CDCA3	83461
ILMN_2073235	12.6581	5.91E-014	2.6015	23.0799	29.0685	FTHL12	2504
ILMN_1809590	9.8158	6.10E-014	0.3156	-22.9937	28.9925	GINS2	51659
ILMN_1810725	7.9552	6.10E-014	3.4271	22.9861	28.9858	FAM129A	116496
ILMN_1683146	10.2062	6.24E-014	2.9735	22.9343	28.9399	FTH1	2495
ILMN_2412384	8.8774	8.27E-014	0.3040	-22.6069	28.6474	CCNE2	9134
ILMN_2349459	9.3994	8.41E-014	0.3149	-22.5625	28.6073	BIRC5	332
ILMN_1666553	9.1191	8.72E-014	0.3830	-22.4992	28.5501	SLC25A19	60386
ILMN_1726720	10.5083	8.84E-014	0.3798	-22.4597	28.5142	NUSAP1	51203
ILMN_1747016	8.9221	8.93E-014	0.4101	-22.4243	28.4821	CEP55	55165
ILMN_1673721	8.1894	9.64E-014	0.3535	-22.3202	28.3873	EXO1	9156
ILMN_1695658	9.0175	1.03E-013	0.3766	-22.2320	28.3066	KIF20A	10112
ILMN_1770338	8.7269	1.04E-013	0.3739	-22.1488	28.2301	TM4SF1	4071
ILMN_1664511	8.6556	1.04E-013	0.4260	-22.1337	28.2162	NDC80	10403
ILMN_1781479	8.7356	1.04E-013	0.4274	-22.1850	28.2634	SUV39H1	6839
ILMN_2188862	12.6873	1.04E-013	3.9854	22.1376	28.2198	GDF15	9518
ILMN_2374633	9.9032	1.17E-013	0.3800	-21.9896	28.0829	ZWILCH	55055
ILMN_1710428	8.9726	1.18E-013	0.3481	-21.9516	28.0477	CDC2	983
ILMN_1711470	10.8851	1.18E-013	0.4457	-21.9426	28.0393	UBE2T	29089
ILMN_2389114	8.2692	1.35E-013	0.4545	-21.7607	27.8693	FIGNL1	63979
ILMN_1703477	9.4560	1.35E-013	2.5436	21.7675	27.8757	ARHGEF2	9181
ILMN_2173835	9.9990	2.03E-013	3.1219	21.3343	27.4649	FTHL3	2498
ILMN_1660654	7.9735	2.14E-013	0.4398	-21.2606	27.3941	CDCA2	157313
ILMN_1679438	8.3876	2.20E-013	0.3761	-21.2158	27.3509	MLF1IP	79682
ILMN_1781859	10.1669	2.27E-013	0.4184	-21.1705	27.3072	UGT2B28	54490
ILMN_1659364	9.8871	2.43E-013	0.4102	-21.0855	27.2249	RFC5	5985
ILMN_2368718	9.8671	2.43E-013	0.3947	-21.0679	27.2078	CENPM	79019
ILMN_1798654	10.7142	3.04E-013	0.3990	-20.8125	26.9581	MCM6	4175
ILMN_1691884	9.5383	3.04E-013	2.7053	20.7989	26.9447	STC2	8614
ILMN_2358457	9.7536	3.04E-013	2.8764	20.8058	26.9516	ATF4	468
ILMN_1670238	9.5488	3.22E-013	0.2735	-20.7285	26.8753	CDC45L	8318
ILMN_1664630	8.3817	3.26E-013	0.3940	-20.6864	26.8337	CHEK1	1111
ILMN_1696713	8.6106	3.26E-013	0.3950	-20.6931	26.8403	POLA2	23649
ILMN_1671791	11.5458	3.27E-013	3.1800	20.6691	26.8165	PCK2	5106
ILMN_1801257	8.7173	3.47E-013	0.4053	-20.5978	26.7457	CENPA	1058
ILMN_1728934	10.4422	3.64E-013	0.4702	-20.5372	26.6853	PRC1	9055
ILMN_1739645	8.1660	3.94E-013	0.4600	-20.4458	26.5939	ANLN	54443
ILMN_1693014	11.6256	3.98E-013	2.1094	20.4239	26.5719	CEBPB	1051
ILMN_2362545	8.2234	4.40E-013	0.4168	-20.3127	26.4601	ZWINT	11130
ILMN_1806037	9.8198	4.41E-013	0.3354	-20.2985	26.4457	TK1	7083
ILMN_3239771	9.3318	4.77E-013	0.4198	-20.2104	26.3565	DLGAP5	9787
ILMN_1754272	8.6864	5.00E-013	0.3838	-20.1539	26.2991	GINS3	64785
ILMN_2200331	8.6408	5.68E-013	0.4321	-20.0195	26.1619	H2AFX	3014
ILMN_1815169	8.6124	5.77E-013	0.4126	-19.9931	26.1348	MCM5	4174
ILMN_1778152	8.4211	5.95E-013	0.4485	-19.9514	26.0921	FIGNL1	63979
ILMN_1774336	8.4083	6.25E-013	0.4569	-19.8938	26.0327	POLE2	5427
ILMN_2355665	9.1986	6.31E-013	0.4529	-19.8603	25.9981	MTP18	51537
ILMN_1810560	10.0418	6.31E-013	2.2261	19.8635	26.0014	P8	26471
ILMN_1681503	8.6937	6.47E-013	0.3709	-19.8241	25.9607	MCM2	4171
ILMN_1678669	8.1049	6.47E-013	0.3803	-19.8153	25.9516	RRM2	6241
ILMN_2072296	12.0487	6.58E-013	0.4162	-19.7877	25.9230	CKS2	1164
ILMN_1655229	8.4385	6.80E-013	2.2036	19.7466	25.8804	SLC7A11	23657
ILMN_1750294	7.8198	6.96E-013	0.4320	-19.6936	25.8252	ADAM7	8756
ILMN_1724407	8.3293	6.96E-013	0.4669	-19.6916	25.8231	TACC3	10460
ILMN_1702933	9.2148	6.96E-013	2.2483	19.6937	25.8253	ADM2	79924
ILMN_2196984	9.8671	7.10E-013	0.3515	-19.6629	25.7931	OIP5	11339
ILMN_1737184	9.1722	7.17E-013	0.3888	-19.6435	25.7729	CDCA7	83879
ILMN_2162819	11.1009	7.23E-013	0.4377	-19.6262	25.7549	UGT2B11	10720
ILMN_2157240	9.0730	7.37E-013	0.4788	-19.5980	25.7254	MNS1	55329
ILMN_1799516	10.4067	7.96E-013	0.4363	-19.5163	25.6396	DNAJC9	23234
ILMN_1709294	8.8590	8.87E-013	0.4353	-19.3972	25.5140	CDCA8	55143
ILMN_1788166	8.6086	8.87E-013	0.4477	-19.4060	25.5233	TTK	7272
ILMN_2305112	8.1475	1.00E-012	2.0965	19.2749	25.3841	CTH	1491
ILMN_1786065	9.0257	1.11E-012	0.3412	-19.1776	25.2803	UHRF1	29128
ILMN_1655642	8.1584	1.26E-012	0.4358	-19.0452	25.1380	FANCI	55215
ILMN_2374159	10.6087	1.26E-012	2.3523	19.0396	25.1320	HERPUD1	9709
ILMN_1796245	10.3121	1.28E-012	2.0442	19.0209	25.1117	DNASE2	1777
ILMN_1789123	8.5353	1.43E-012	0.4510	-18.9104	24.9922	PLK4	10733
ILMN_1796949	8.8229	1.46E-012	0.4671	-18.8785	24.9575	TPX2	22974
ILMN_2181432	9.5111	1.57E-012	0.3890	-18.8070	24.8795	SPC24	147841
ILMN_1740291	8.2808	1.60E-012	0.4862	-18.7800	24.8501	POLQ	10721
ILMN_1749829	8.9992	1.99E-012	0.3346	-18.5789	24.6290	DLGAP5	9787
ILMN_1724489	10.0477	2.27E-012	0.4901	-18.4546	24.4911	RFC4	5984
ILMN_1706013	11.8441	2.27E-012	2.4407	18.4471	24.4829	FTHL11	2503
ILMN_1748124	10.1590	2.44E-012	2.4219	18.3756	24.4031	TSC22D3	1831
ILMN_1801939	10.6143	2.59E-012	0.4657	-18.3149	24.3351	CCNB2	9133
ILMN_2413899	7.3994	3.00E-012	0.4623	-18.1804	24.1838	MCM10	55388
ILMN_1656452	8.1245	3.17E-012	0.4834	-18.1251	24.1212	C16orf59	80178

Siomycin A treatment in PC3 and LIMMA analysis

ID Ref	AveExpr	adj.P.Val	Fold Change	t	B	Symbol	Entrez Gene ID
ILMN_2151281	9.3094	7.47E-016	5.0039	44.3255	34.2302	GABARAPL1	23710
ILMN_1713124	9.8182	2.98E-015	3.7784	39.6550	32.8388	AKR1C3	8644
ILMN_1800512	8.8321	4.44E-015	5.3718	37.9826	32.2720	HMOX1	3162
ILMN_3246273	9.7209	1.42E-014	4.5930	35.1282	31.2065	RNU1-3	26869
ILMN_3236653	9.9114	2.39E-014	4.8112	33.7556	30.6451	RNU1-5	26863
ILMN_3244646	9.5959	1.06E-013	4.7667	30.8505	29.3367	RNU1G2	26864
ILMN_1750324	9.9107	2.36E-013	0.2382	-29.0818	28.4500	IGFBP5	3488
ILMN_1712082	8.2039	2.36E-013	6.9047	29.1595	28.4905	GCNT3	9245
ILMN_3245678	9.8564	3.97E-013	3.8560	28.0901	27.9193	RNU1A3	26871
ILMN_1766637	10.8889	5.86E-013	2.6492	27.3471	27.5048	GLA	2717
ILMN_2132982	9.6240	1.00E-012	0.2425	-26.4226	26.9675	IGFBP5	3488
ILMN_1675797	11.2433	1.84E-012	2.4237	25.3301	26.2999	EPDR1	54749
ILMN_1795963	9.9933	1.84E-012	2.8840	25.4201	26.3563	OKL38	29948
ILMN_1759097	11.2827	2.56E-012	6.8899	24.7812	25.9503	MLLT11	10962
ILMN_1809931	12.1543	3.51E-012	3.4695	24.2638	25.6118	NDRG1	10397
ILMN_1687757	8.1734	4.07E-012	2.6991	23.9827	25.4240	AKR1C4	1109
ILMN_1798256	11.4908	4.76E-012	2.6614	23.6998	25.2322	UPP1	7378
ILMN_2395139	10.6217	5.34E-012	0.4525	-23.4781	25.0798	SERPINB7	8710
ILMN_1652244	8.5623	5.65E-012	2.1438	23.3363	24.9815	POPDC3	64208
ILMN_3288717	12.0174	1.05E-011	3.8340	22.4961	24.3833	LOC392437	392437
ILMN_1773006	8.8663	1.23E-011	0.4651	-22.2355	24.1923	FABP4	2167
ILMN_3202024	12.4415	1.24E-011	3.4833	22.1727	24.1459	LOC392437	392437
ILMN_1724533	8.0538	1.56E-011	2.2043	21.8392	23.8966	LY96	23643
ILMN_1743078	11.6107	1.99E-011	2.7386	21.4998	23.6382	LOC643031	643031
ILMN_1794501	9.9521	2.19E-011	0.3234	-21.3405	23.5153	HAS3	3038
ILMN_1757467	11.8764	3.67E-011	0.4745	-20.6947	23.0056	H1F0	3005
ILMN_3237368	8.6857	3.80E-011	2.4627	20.6127	22.9396	LOC644132	644132
ILMN_1804822	10.5603	4.40E-011	2.2685	20.4025	22.7690	SRXN1	140809
ILMN_1666222	9.6516	5.69E-011	0.0855	-20.0758	22.4997	PHACTR3	116154
ILMN_2058512	8.8921	7.14E-011	2.0283	19.7525	22.2283	PSMA2	5683
ILMN_3240220	8.8014	7.59E-011	3.3153	19.6508	22.1419	RNU1F1	26866
ILMN_1706015	9.3623	8.68E-011	0.4570	-19.3508	21.8839	FAM43A	131583
ILMN_1767685	11.4747	8.68E-011	0.4792	-19.3474	21.8810	SERPINB7	8710
ILMN_1764794	11.9717	8.68E-011	2.1636	19.3196	21.8569	PSMB2	5690
ILMN_1674038	8.9496	1.09E-010	2.0673	18.9976	21.5745	CTSD	1509
ILMN_3244176	10.6179	1.34E-010	2.1587	18.7369	21.3420	LOC399959	399959
ILMN_2298818	9.5700	1.34E-010	2.4122	18.7270	21.3331	RPS29	6235
ILMN_1707727	8.7099	1.39E-010	3.0614	18.6687	21.2806	ANGPTL4	51129
ILMN_1794505	10.7919	1.46E-010	2.4342	18.5950	21.2140	SHFM1	7979
ILMN_1713505	9.9287	1.55E-010	2.1307	18.4857	21.1145	NPC1	4864
ILMN_2186061	10.0056	1.69E-010	2.0010	18.3229	20.9654	PFKFB3	5209
ILMN_2411864	8.4584	1.73E-010	0.1734	-18.2501	20.8982	PHACTR3	116154
ILMN_1694075	10.1058	1.73E-010	2.0051	18.2646	20.9116	GADD45A	1647
ILMN_2338323	10.2176	1.98E-010	0.4674	-18.0927	20.7519	CDC25B	994
ILMN_1753342	11.8747	1.98E-010	3.6821	18.0753	20.7356	11/01/11	6303
ILMN_1662470	11.4699	2.00E-010	2.1720	18.0461	20.7083	C10orf35	219738
ILMN_1744299	8.3875	2.11E-010	0.3866	-17.9440	20.6124	GPR110	266977
ILMN_2383383	9.6354	4.83E-010	2.2651	17.0773	19.7743	PIR	8544
ILMN_1797793	9.2390	4.83E-010	2.9525	17.0890	19.7859	BLVRB	645
ILMN_1686116	9.8183	4.84E-010	0.4340	-17.0590	19.7561	THBS1	7057
ILMN_1781285	10.3840	5.53E-010	6.2549	16.9169	19.6142	DUSP1	1843
ILMN_2241124	8.1848	5.74E-010	0.3814	-16.8671	19.5642	GPR110	266977
ILMN_1761247	10.3311	5.80E-010	2.1023	16.8421	19.5390	PIR	8544
ILMN_1729117	8.8368	9.50E-010	0.4116	-16.3249	19.0096	COL5A2	1290
ILMN_1677292	8.8699	1.04E-009	2.2307	16.2186	18.8986	C5orf30	90355
ILMN_1787932	8.5417	1.19E-009	0.4899	-16.0578	18.7294	GPR110	266977
ILMN_1746465	9.0072	1.20E-009	0.4968	-16.0392	18.7097	FJX1	24147
ILMN_1740426	8.4053	1.41E-009	2.0701	15.8810	18.5413	RASD1	51655
ILMN_1775501	8.6380	2.19E-009	0.4728	-15.3791	17.9955	IL1B	3553
ILMN_2256359	9.2954	5.86E-009	2.0222	14.3708	16.8440	HSZFP36	55552
ILMN_2194828	9.2691	5.87E-009	0.4739	-14.3612	16.8326	C16orf53	79447
ILMN_2161330	8.9695	7.09E-009	0.4685	-14.1467	16.5774	SPDEF	25803
ILMN_1682459	9.0902	8.28E-009	3.0466	13.9791	16.3755	TUBB4	10382
ILMN_1700811	8.7186	9.66E-009	2.1254	13.8035	16.1615	UBFD1	56061
ILMN_1755974	10.7137	1.07E-008	2.3471	13.6639	15.9894	ALDOC	230
ILMN_3273154	7.4962	1.09E-008	0.4447	-13.6036	15.9146	C20orf56	140828
ILMN_3196687	7.8975	1.12E-008	0.3487	-13.5694	15.8721	C20orf56	140828
ILMN_1659601	8.7718	1.25E-008	4.4968	13.4337	15.7022	CCL26	10344
ILMN_1691809	10.1027	2.13E-008	2.1399	12.8942	15.0111	PSMA1	5682
ILMN_1652237	9.7079	2.26E-008	2.0268	12.8452	14.9470	CBR3	874
ILMN_1662618	13.5315	2.38E-008	2.2621	12.7939	14.8797	SQSTM1	8878
ILMN_2041190	10.3015	2.44E-008	0.4644	-12.7683	14.8461	F2RL1	2150
ILMN_1715748	11.1205	2.46E-008	2.2185	12.7551	14.8286	FLNC	2318
ILMN_1708934	10.6687	3.22E-008	4.8466	12.5228	14.5199	ADM	133
ILMN_1667748	8.5370	3.58E-008	2.1328	12.4138	14.3734	ANKRD33	341405
ILMN_1683263	9.2597	3.94E-008	0.3516	-12.3070	14.2286	TSPAN8	7103
ILMN_1680390	8.7179	4.09E-008	2.0810	12.2736	14.1832	GCNT2	2651
ILMN_1673566	8.3489	4.13E-008	2.3652	12.2627	14.1682	ADAMTS1	9510
ILMN_1755862	8.3827	4.47E-008	0.4988	-12.1927	14.0726	PFAS	5198
ILMN_1746393	8.8724	6.17E-008	0.4868	-11.8682	13.6224	TSEN2	80746
ILMN_1676984	10.2927	6.73E-008	2.5643	11.7936	13.5174	DDIT3	1649
ILMN_1653001	8.3518	6.78E-008	0.3673	-11.7771	13.4941	CABLES1	91768
ILMN_1746888	9.7453	6.78E-008	2.0688	11.7767	13.4936	PCOLCE2	26577
ILMN_3205656	12.6658	7.45E-008	2.0344	11.6864	13.3656	LOC391075	391075
ILMN_1666757	8.6634	7.85E-008	2.7026	11.6475	13.3102	SDHALP1	255812
ILMN_3239576	9.0524	9.55E-008	0.4956	-11.4891	13.0831	LOC100216001	100216001
ILMN_1746819	7.9621	9.65E-008	0.4657	-11.4798	13.0697	C5	727
ILMN_1691860	8.6711	1.24E-007	0.4934	-11.2690	12.7632	SPRY1	10252
ILMN_1690125	9.2383	1.44E-007	2.1558	11.1372	12.5691	PDLIM7	9260
ILMN_1665964	8.2621	1.44E-007	2.2660	11.1369	12.5687	GAB2	9846
ILMN_1672611	9.9088	1.45E-007	0.3579	-11.1230	12.5481	CDH11	1009
ILMN_1808713	7.4886	1.56E-007	0.4784	-11.0588	12.4528	HSD17B2	3294
ILMN_1671353	7.6826	1.70E-007	2.1314	10.9839	12.3411	IL12A	3592
ILMN_1768646	7.6327	1.84E-007	0.4054	-10.9034	12.2203	FLJ32252	146336
ILMN_1659027	10.3465	2.16E-007	2.0886	10.7733	12.0234	SLC2A1	6513
ILMN_3283772	11.0459	2.29E-007	2.1300	10.7245	11.9491	LOC644237	644237
ILMN_1773865	9.7529	3.28E-007	2.5112	10.4211	11.4813	HSPA5	3309
ILMN_2345142	8.1018	3.34E-007	0.4697	-10.4048	11.4559	SULF2	55959
ILMN_2329914	9.5042	3.60E-007	0.4536	-10.3387	11.3524	SPRY1	10252
ILMN_1760062	8.7716	3.68E-007	2.3612	10.3193	11.3220	IFI44	10561
ILMN_1715684	9.6189	8.47E-007	2.1852	9.6571	10.2554	LAMB3	3914
ILMN_1724686	8.0060	8.65E-007	0.4965	-9.6387	10.2251	CLDN1	9076
ILMN_1735930	9.2403	8.91E-007	3.0365	9.6117	10.1803	KLF2	10365
ILMN_1673113	10.5025	9.76E-007	0.4815	-9.5410	10.0630	F2RL1	2150
ILMN_1812926	10.4031	1.05E-006	0.3635	-9.4845	9.9687	ANTXR2	118429
ILMN_2287543	8.3208	1.12E-006	0.3408	-9.4381	9.8910	SHISA3	152573
ILMN_1797728	9.5693	1.15E-006	2.1227	9.4191	9.8591	HMGCS1	3157
ILMN_1765796	9.3916	1.31E-006	2.0202	9.3129	9.6800	ENO2	2026
ILMN_1683146	11.7867	1.51E-006	2.0997	9.2060	9.4981	FTH1	2495
ILMN_1784300	9.4552	1.61E-006	2.3562	9.1608	9.4209	TUBA4A	7277
ILMN_1735788	8.5060	1.64E-006	0.3935	-9.1482	9.3993	TRIOBP	11078

ILMN_1673673	8.7749	3.19E-012	0.4544	-18.1131	24.1077	PBK	55872
ILMN_2285996	11.0998	3.24E-012	0.3863	-18.0922	24.0840	KIAA0101	9768
ILMN_2409220	9.5186	3.36E-012	0.3989	-18.0525	24.0388	HMMR	3161
ILMN_1671843	8.4107	3.57E-012	0.4249	-17.9871	23.9643	PSRC1	84722
ILMN_2412860	7.9519	3.57E-012	0.4674	-17.9857	23.9628	MCM4	4173
ILMN_1763409	9.2594	3.90E-012	2.0150	17.8951	23.8591	LRRC8D	55144
ILMN_2362549	8.9224	3.94E-012	0.3631	-17.8783	23.8399	ZWINT	11130
ILMN_1659913	9.4180	4.32E-012	2.3198	17.7856	23.7331	ISG20	3669
ILMN_1777564	10.2409	4.58E-012	0.3801	-17.7223	23.6600	MAD2L1	4085
ILMN_1727540	8.3113	4.60E-012	0.4297	-17.7127	23.6488	C1orf112	55732
ILMN_2181892	11.2187	5.36E-012	2.0708	17.5760	23.4899	BEX2	84707
ILMN_1663390	11.2383	5.38E-012	0.3885	-17.5665	23.4788	CDC20	991
ILMN_1711005	8.2798	5.65E-012	0.4002	-17.5128	23.4160	CDC25A	993
ILMN_1695357	8.6863	6.10E-012	0.4773	-17.4420	23.3329	CCDC99	54908
ILMN_2404688	10.8023	6.30E-012	2.1362	17.4088	23.2937	NUPR1	26471
ILMN_1695414	8.6108	7.59E-012	0.3451	-17.2414	23.0956	ASF1B	55723
ILMN_1760649	8.7640	7.59E-012	3.1968	17.2455	23.1005	PCK2	5106
ILMN_2224143	10.7409	7.64E-012	0.4611	-17.2295	23.0815	MCM3	4172
ILMN_1737205	9.2856	7.84E-012	0.3338	-17.1893	23.0336	MCM4	4173
ILMN_1810901	9.1613	7.84E-012	0.4314	-17.1937	23.0389	RNASEH2A	10535
ILMN_1801216	9.7191	7.84E-012	6.5910	17.1890	23.0333	S100P	6286
ILMN_2073604	9.9366	8.15E-012	0.4386	-17.1518	22.9888	EBP	10682
ILMN_1665559	9.5804	8.20E-012	0.4183	-17.1407	22.9756	CDK2	1017
ILMN_2077550	9.3745	9.27E-012	0.4880	-17.0342	22.8478	RACGAP1	29127
ILMN_1663195	11.4057	9.97E-012	0.3330	-16.9685	22.7686	MCM7	4176
ILMN_1721868	9.4236	1.07E-011	0.4628	-16.9028	22.6891	KPNA2	3838
ILMN_1703906	8.7141	1.15E-011	0.4240	-16.8322	22.6033	HJURP	55355
ILMN_3191227	7.9814	1.15E-011	0.4930	-16.8272	22.5973	LOC100129267	1E+08
ILMN_1769634	11.6355	1.23E-011	0.4632	-16.7646	22.5209	STRA13	201254
ILMN_1731070	8.2626	1.28E-011	0.4446	-16.7234	22.4706	ORC6L	23594
ILMN_2396982	9.7155	1.33E-011	0.4693	-16.6823	22.4201	BCL2L12	83596
ILMN_2172174	9.6603	1.45E-011	0.4514	-16.5931	22.3104	NP	4860
ILMN_2202948	8.4427	1.47E-011	0.4900	-16.5719	22.2842	BUB1	699
ILMN_2041046	10.9254	1.52E-011	0.4245	-16.5362	22.2400	CKS1B	1163
ILMN_1755834	8.3257	1.68E-011	0.4531	-16.4523	22.1359	FEN1	2237
ILMN_1653553	9.0095	1.83E-011	0.4603	-16.3804	22.0464	C14orf80	283643
ILMN_1785198	11.6427	1.83E-011	0.4459	-16.3726	22.0367	POLE3	54107
ILMN_2228463	10.8584	1.86E-011	0.4566	-16.3551	22.0148	DDC	1644
ILMN_1651237	8.6143	1.93E-011	0.3554	-16.3161	21.9660	CDT1	81620
ILMN_1686097	9.9423	1.98E-011	0.4111	-16.2910	21.9345	TOP2A	7153
ILMN_1752953	9.5713	1.99E-011	0.4719	-16.2844	21.9262	BCL2L12	83596
ILMN_1759277	8.5660	2.01E-011	0.4140	-16.2724	21.9111	OIP5	11339
ILMN_3239785	9.3868	2.01E-011	0.4740	-16.2647	21.9015	LOC100134304	1E+08
ILMN_2398107	10.5179	2.02E-011	2.3091	16.2567	21.8913	ASNS	440
ILMN_1741801	8.6369	2.05E-011	0.4138	-16.2396	21.8698	CDC7	8317
ILMN_1732516	8.5286	2.24E-011	0.4953	-16.1676	21.7790	KNTC1	9735
ILMN_1747911	10.9696	2.31E-011	0.3365	-16.1366	21.7398	CDC2	983
ILMN_1737283	8.7320	3.10E-011	0.4926	-15.8966	21.4338	MGC39900	286527
ILMN_1780667	9.6146	3.53E-011	0.4620	-15.7872	21.2928	WDR51A	25886
ILMN_1694177	10.9466	3.56E-011	0.4656	-15.7747	21.2766	PCNA	5111
ILMN_1684158	10.5133	3.56E-011	2.1716	15.7731	21.2746	GPT2	84706
ILMN_2376403	9.1190	3.71E-011	2.5006	15.7371	21.2280	TSC22D3	1831
ILMN_1720114	8.9806	3.89E-011	0.4187	-15.6926	21.1702	GMNN	51053
ILMN_1695731	11.4942	4.02E-011	0.4922	-15.6627	21.1314	TUBG1	7283
ILMN_2377900	8.9402	4.05E-011	2.1851	15.6532	21.1189	MAP1B	4131
ILMN_1805828	8.4375	4.24E-011	0.4705	-15.6089	21.0611	VRK1	7443
ILMN_1786972	10.0855	4.63E-011	2.4648	15.5341	20.9633	SARS	6301
ILMN_1780132	7.7324	5.06E-011	2.0624	15.4604	20.8663	PELI2	57161
ILMN_1678300	9.4885	5.43E-011	0.4750	-15.4027	20.7902	MGC40489	146880
ILMN_2151281	9.0414	5.74E-011	2.3292	15.3537	20.7253	GABARAPL1	23710
ILMN_1777233	8.2659	7.19E-011	0.4110	-15.1659	20.4749	E2F2	1870
ILMN_1739241	7.4316	7.23E-011	2.0070	15.1587	20.4653	CHAC1	79094
ILMN_3237584	8.3233	8.50E-011	0.4933	-15.0092	20.2639	LOC100133489	1E+08
ILMN_2176251	8.9762	9.98E-011	0.4953	-14.8811	20.0899	C20orf72	92667
ILMN_1715616	9.1938	1.02E-010	0.4860	-14.8592	20.0599	PPIL5	122769
ILMN_1790537	8.7412	1.07E-010	0.4715	-14.8192	20.0054	C16orf75	116028
ILMN_1712888	10.8805	1.25E-010	0.4964	-14.6887	19.8260	HSPH1	10808
ILMN_3243324	7.8105	1.29E-010	2.3243	14.6589	19.7848	FLJ35024	401491
ILMN_3297789	7.9161	1.34E-010	0.4826	-14.6264	19.7399	NCRNA00161	118421
ILMN_1794825	10.5913	1.37E-010	2.0666	14.6025	19.7068	ALDH3A2	224
ILMN_1716766	9.6360	1.52E-010	2.3143	14.5206	19.5928	CEBPG	1054
ILMN_2126706	9.0849	1.58E-010	0.4375	-14.4888	19.5485	LMNB1	4001
ILMN_1696432	10.6976	1.67E-010	2.1505	14.4234	19.4570	IDH1	3417
ILMN_1687107	8.4716	1.78E-010	0.4759	-14.3727	19.3858	RFWD3	55159
ILMN_1667561	9.0010	1.88E-010	2.4915	14.3339	19.3312	IFRD1	3475
ILMN_1773119	9.0031	1.95E-010	0.4468	-14.3025	19.2868	CCNF	899
ILMN_2143155	7.5887	1.98E-010	0.4987	-14.2823	19.2583	KIF11	3832
ILMN_1731640	8.7756	2.15E-010	0.4523	-14.2088	19.1542	MGC39900	286527
ILMN_1668814	8.4074	2.90E-010	0.4886	-13.9737	18.8177	CENPM	79019
ILMN_2330861	9.9210	2.94E-010	0.4517	-13.9587	18.7961	SMC4	10051
ILMN_1719256	11.5918	3.05E-010	0.4738	-13.9246	18.7468	CKS1B	1163
ILMN_1752810	7.7132	3.68E-010	2.3676	13.7880	18.5484	LARP6	55323
ILMN_1797822	10.9399	3.97E-010	2.1785	13.7269	18.4592	SEL1L3	23231
ILMN_1690703	10.7539	4.29E-010	2.0884	13.6640	18.3669	C21orf34	388815
ILMN_2222008	8.5035	4.32E-010	0.4833	-13.6568	18.3564	KIFC1	3833
ILMN_1681737	9.6364	4.43E-010	0.4225	-13.6374	18.3279	TMSB15A	11013
ILMN_1757845	9.7875	4.58E-010	2.1443	13.6133	18.2924	SPIRE1	56907
ILMN_1667966	7.8409	4.62E-010	2.4538	13.6042	18.2790	C1orf24	116496
ILMN_1727055	9.0908	4.78E-010	0.4780	-13.5756	18.2367	C12orf48	55010
ILMN_1714445	8.0440	5.56E-010	2.0996	13.4477	18.0470	SLC6A9	6536
ILMN_2374164	10.7433	6.02E-010	2.3076	13.3764	17.9406	HERPUD1	9709
ILMN_3305273	10.5413	6.88E-010	2.4131	13.2824	17.7995	LOC729779	729779
ILMN_1657796	9.2234	9.20E-010	0.4439	-13.0710	17.4793	STMN1	3925
ILMN_1693669	8.3427	9.96E-010	0.4917	-13.0127	17.3902	WDR79	55135
ILMN_1666305	10.2655	1.11E-009	0.4664	-12.9247	17.2550	CDKN3	1033
ILMN_1802699	8.0661	1.28E-009	2.0026	12.8191	17.0919	PCK2	5106
ILMN_1724145	10.1248	1.53E-009	2.0402	12.6861	16.8850	CBX4	8535
ILMN_2220184	9.0355	1.64E-009	2.0636	12.6339	16.8033	GFPT1	2673
ILMN_2220187	9.5159	2.38E-009	2.1037	12.3665	16.3801	GFPT1	2673
ILMN_1743078	10.7731	4.15E-009	2.3164	11.9631	15.7280	LOC643031	643031
ILMN_1793859	8.5190	4.28E-009	2.3620	11.9403	15.6905	ALDH2	217
ILMN_1747303	10.6507	4.59E-009	0.3489	-11.8937	15.6141	DDX39	10212
ILMN_2374865	9.6145	4.63E-009	2.9600	11.8852	15.6000	ATF3	467
ILMN_1658702	8.0069	4.82E-009	0.4570	-11.8558	15.5515	HIST1H2BJ	8970
ILMN_2080611	9.1611	4.96E-009	0.4968	-11.8354	15.5180	PDSS1	23590
ILMN_3251497	9.7793	5.95E-009	2.1766	11.7097	15.3094	GSTA1	2938
ILMN_1735115	10.0983	6.45E-009	2.2336	11.6566	15.2209	FOLH1	2346
ILMN_1707372	8.7150	6.67E-009	2.0045	11.6306	15.1774	RNF187	149603
ILMN_2048700	9.3830	6.90E-009	0.4273	-11.6056	15.1354	ATAD2	29028
ILMN_1794190	8.5031	7.64E-009	2.2923	11.5418	15.0282	CCPG1	9236
ILMN_1787628	11.8140	8.90E-009	0.4804	-11.4412	14.8582	NOP56	10528
ILMN_1788874	7.8474	1.07E-008	2.9030	11.3222	14.6558	SERPINA3	12
ILMN_1725079	8.7624	2.83E-008	2.0758	10.6867	13.5467	TSPAN31	6302
ILMN_1804562	9.9545	3.08E-008	2.0313	10.6315	13.4481	SLC31A1	1317
ILMN_1673522	10.2075	3.34E-008	2.1677	10.5735	13.3442	MOCOS	55034
ILMN_1737089	8.9618	4.20E-008	2.4642	10.4272	13.0801	CAPN5	726
ILMN_3251662	9.1339	5.55E-008	2.1641	10.2548	12.7657	HINT3	135114

ILMN_1815023	8.5086	1.95E-006	2.9051	9.0171	9.1734	PIM1	5292
ILMN_1811104	9.2837	2.27E-006	0.4457	-8.9036	8.9759	KTELC1	56983
ILMN_2049727	11.0553	2.32E-006	2.0570	8.8865	8.9460	C20orf111	51526
ILMN_2197365	11.1968	2.44E-006	0.4028	-8.8513	8.8844	RGS2	5997
ILMN_1765332	11.1033	2.95E-006	0.4657	-8.7053	8.6272	TIMM10	26519
ILMN_1682273	8.8851	3.51E-006	0.3052	-8.5832	8.4098	SHISA3	152573
ILMN_1734276	9.0893	3.66E-006	0.4259	-8.5556	8.3603	PMEPA1	56937
ILMN_3307841	9.8943	3.73E-006	0.4377	-8.5392	8.3308	AGR2	10551
ILMN_1713952	8.9022	4.28E-006	0.3959	-8.4428	8.1573	C1orf106	55765
ILMN_1784985	8.1604	4.39E-006	0.4239	-8.4217	8.1190	PRRT3	285368
ILMN_2086105	9.2125	4.39E-006	0.4286	-8.4221	8.1199	SPRY4	81848
ILMN_1737406	9.4172	5.69E-006	2.3330	8.2467	7.8002	KLF6	1316
ILMN_2169383	7.7004	6.87E-006	0.4337	-8.1138	7.5553	REG4	83998
ILMN_2120247	8.5998	7.57E-006	0.4099	-8.0499	7.4367	SLC2A10	81031
ILMN_2166457	8.4519	8.82E-006	0.3881	-7.9470	7.2446	HPGD	3248
ILMN_1711030	8.3315	9.97E-006	0.4639	-7.8621	7.0849	OPLAH	26873
ILMN_2038775	9.0786	1.16E-005	2.0883	7.7654	6.9018	TUBB2A	7280
ILMN_1720829	8.3605	1.39E-005	2.6081	7.6516	6.6848	ZFP36	7538
ILMN_3239775	7.7193	1.41E-005	0.3743	-7.6403	6.6633	ODZ4	26011
ILMN_1804277	11.2733	1.43E-005	0.4590	-7.6323	6.6479	SPRED1	161742
ILMN_3267451	8.8416	1.52E-005	2.0623	7.5880	6.5628	GAPDHL6	729403
ILMN_1691572	10.0668	1.57E-005	0.4221	-7.5646	6.5177	TST	7263
ILMN_1775170	12.0901	1.73E-005	2.5778	7.5007	6.3944	MT1X	4501
ILMN_1699574	11.4364	1.97E-005	0.2596	-7.4146	6.2271	NRP1	8829
ILMN_1802205	7.7184	2.10E-005	2.0441	7.3748	6.1496	RHOB	388
ILMN_1743367	9.4938	2.21E-005	0.2707	-7.3425	6.0864	FZD4	8322
ILMN_1735014	10.7018	2.26E-005	2.3355	7.3221	6.0464	KLF6	1316
ILMN_1728163	8.5450	2.52E-005	0.3922	-7.2595	5.9234	CTDSP1	58190
ILMN_1705774	9.1913	3.20E-005	0.4437	-7.1010	5.6095	TIGD5	84948
ILMN_1808789	8.3246	3.66E-005	0.4934	-7.0180	5.4438	MYO5C	55930
ILMN_1679267	9.8990	4.31E-005	2.2137	6.9131	5.2332	TGM2	7052
ILMN_1807331	7.5889	4.34E-005	2.0907	6.9090	5.2249	BLID	414899
ILMN_1736340	9.4106	4.50E-005	0.4969	-6.8858	5.1780	ANGEL2	90806
ILMN_1694233	9.5820	5.05E-005	2.0485	6.8171	5.0390	ACYP1	97
ILMN_1688670	9.1815	5.42E-005	2.6330	6.7766	4.9566	CDCP1	64866
ILMN_1693317	8.4241	5.55E-005	0.4943	-6.7612	4.9253	TTC15	51112
ILMN_1703955	9.0970	5.98E-005	2.2265	6.7172	4.8355	FBXO32	114907
ILMN_1661599	10.4071	6.69E-005	2.1940	6.6487	4.6954	DDIT4	54541
ILMN_1790562	7.8661	6.90E-005	2.4989	6.6277	4.6523	EYA3	2140
ILMN_2341611	9.5161	8.12E-005	2.7782	6.5267	4.4441	CDCP1	64866
ILMN_1705093	10.2233	0.000103748	0.4974	-6.3801	4.1394	ORC5L	5001
ILMN_3243961	10.1774	0.000134839	0.4326	-6.2250	3.8143	ZNF252	286101
ILMN_1742677	8.9223	0.000151594	0.4904	-6.1554	3.6674	HOXB13	10481
ILMN_1769201	8.1059	0.000159482	2.0029	6.1255	3.6041	ELF3	1999
ILMN_2110908	10.2299	0.00019404	2.1832	6.0103	3.3593	MYC	4609
ILMN_1682599	7.8545	0.000233284	2.0158	5.9002	3.1236	GPRC5A	9052
ILMN_1708167	8.4670	0.000300133	5.3467	5.7600	2.8217	CDCP1	64866
ILMN_1793474	9.7236	0.000303913	2.2021	5.7525	2.8054	INSIG1	3638
ILMN_3300663	10.7079	0.000357135	0.4532	-5.6585	2.6018	LOC728661	728661
ILMN_2188264	12.1216	0.000420441	2.0644	5.5659	2.4001	CYR61	3491
ILMN_1707695	9.1906	0.000708817	0.4051	-5.2760	1.7631	IFIT1	3434
ILMN_2231051	7.4916	0.000761056	2.2081	5.2366	1.6760	TCP11L2	255394
ILMN_2376723	8.6388	0.001077315	0.4510	-5.0436	1.2473	CDKN2B	1030
ILMN_1674063	7.9894	0.001198678	0.3814	-4.9854	1.1174	OAS2	4939
ILMN_1715508	8.5869	0.001536874	0.4109	-4.8492	0.8127	NNMT	4837
ILMN_1732071	9.9631	0.001775828	2.0798	4.7728	0.6413	HIST2H2BE	8349
ILMN_2136089	9.6875	0.00292423	2.0107	4.5062	0.0410	MTE	644314
ILMN_1681780	8.0542	0.004620122	0.4608	-4.2649	-0.5039	MKX	283078
ILMN_1698404	8.7928	0.004851148	2.2630	4.2390	-0.5624	ERN1	2081
ILMN_1662358	9.1577	0.008580582	0.3581	-3.9349	-1.2484	MX1	4599

ILMN_1698404	8.8581	7.80E-008	2.3274	10.0461	12.3801	ERN1	2081
ILMN_1679041	7.9585	8.97E-008	2.4060	9.9601	12.2196	SLC3A2	6520
ILMN_1813100	9.6560	1.24E-007	2.0469	9.7525	11.8285	KIAA1244	57221
ILMN_3274596	10.1242	1.47E-007	2.4753	9.6482	11.6299	LOC286512	286512
ILMN_1753342	12.1394	1.64E-007	2.1750	9.5790	11.4973	11/01/11	6303
ILMN_1796069	9.0496	1.72E-007	0.4092	-9.5510	11.4434	CBLN2	147381
ILMN_1673769	8.2937	2.20E-007	2.0272	9.3975	11.1468	KCNG1	3755
ILMN_2052208	8.8649	2.43E-007	2.0672	9.3349	11.0250	GADD45A	1647
ILMN_1696407	11.6204	4.46E-007	0.4506	-8.9675	10.2991	SFRS2	6427
ILMN_1740426	8.3846	4.49E-006	2.3401	7.6320	7.5094	RASD1	51655
ILMN_1881909	12.5125	1.52E-005	0.3338	-6.9841	6.0703		NA
ILMN_1791123	11.3612	0.000137722	2.1707	5.8616	3.4558	TMPRSS2	7113
ILMN_2412336	7.6927	0.000141601	2.0704	5.8475	3.4223	AKR1C2	1646

Supplementary Table 7: Downstream processes assessed to the up- and downregulated genes upon siomycin A treatment.

Siomycin A deregulated genes in LNCaP

Gene regulation	GO ID	GO Name	Genes	Group count	Total count	p-value
Down	GO:0007049	cell cycle	ccnf; mcm6; **prc1**; kpna2; tpx2; kif11; **aurka**; c11orf82; h2afx; chek1; kifc1; **e2f2**; mcm3; cdkn3; cdca3; fanci; suv39h1; **cdc20**; ndc80; cdca2; racgap1; cdc25a; cks2; **cdc45l**; cdk2; anln; birc5; cdca5; gmnn; spc24; zwint; cdc2; **nusap1**; **uhrf1**; cep55; **kntc1**; exo1; cdc7; bub1; smc4; **stmn1**; ccna2; mns1; **cdca8**; mcm2; pbk; ttk; tubg1; **ccnb2**; **cdt1**; **aurkb**; **ube2c**; fbxo5; mad2l1; cks1b; ncapg; ccne2; mcm7	58	839	1.45E-57
Down	GO:0006260	DNA replication	orc6l; mcm6; pole3; rfc4; **tk1**; tyms; exo1; mcm3; gins2; **mcm4**; pole2; rfc5; pcna; mcm2; mcm5; rnaseh2a; cdc45l; cdt1; cdk2; rrm2; **top2a**; mcm10; fen1; gmnn; pola2; polq; mcm7; ccne2	28	355	5.30E-28
Down	GO:0007051	spindle organization and biogenesis	prc1; kif11; ndc80; aurka; ttk; tubg1; cks2; stmn1; ube2c; zwint	10	19	6.63E-19
Down	GO:0006281	DNA repair	pcna; fanci; rfc4; tyms; h2afx; chek1; exo1; nudt1; top2a; fen1; polq; pole2; rad51ap1; rfc5; uhrf1	15	392	1.85E-10
Down	GO:0000079	regulation of cyclin-dependent protein kinase activity;	cdkn3; ccna2; cks1b; cdc25a; chek1; ccne2; cks2	7	49	6.18E-09
Down	GO:0008283	cell proliferation	pcna; tpx2; racgap1; ttk; cdc25a; chek1; bub1; cdc7; cks2; cdk2; cdkn3; cks1b; cdca7; uhrf1	14	745	3.77E-06
Up	GO:0006915	apoptosis	trib3; nupr1; cbx4; ern1; ddit3; dnase2; gadd45a; ddit4; cebpg; cebpb	10	855	0.000327

Siomycin A deregulated genes in PC3

Gene regulation	GO ID	GO Name	Genes	Group count	Total count	p-value
Down	GO:0045859	regulation of protein kinase activity	spred1; c5; fabp4; spry1; cdkn2b	5	237	0.00323
Down	GO:0009611	response to wounding	il1b; c5; fabp4; hoxb13; f2rl1; thbs1	6	423	0.00323
Up	GO:0006915	apoptosis	il12a; angptl4; rhob; ddit3; ern1; sqstm1; tgm2; gadd45a; ddit4; blid; pim1; hmox1	12	855	3.18E-05
Up	GO:0008283	cell proliferation	il12a; myc; insig1; adm; fth1; adamts1; tgm2; pim1; cyr61; hmox1	10	745	0.000217
Up	GO:0007050	cell cycle arrest	ddit3; ern1; myc; gadd45a	4	101	0.00202
Up	GO:0008202	steroid metabolic process	akr1c4; hmgcs1; insig1; npc1; adm	5	223	0.00289
Up	GO:0048514	blood vessel morphogenesis	angptl4; tgm2; rhob; hmox1	4	147	0.00492