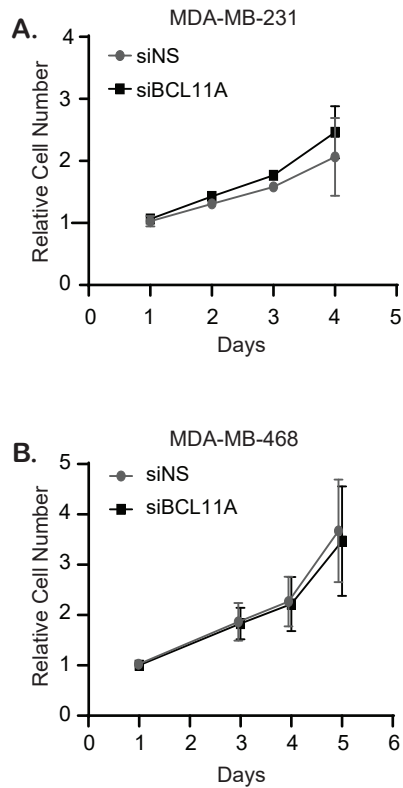
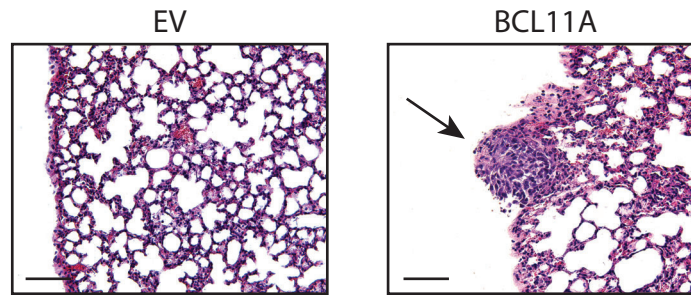


Supplemental Figure 1



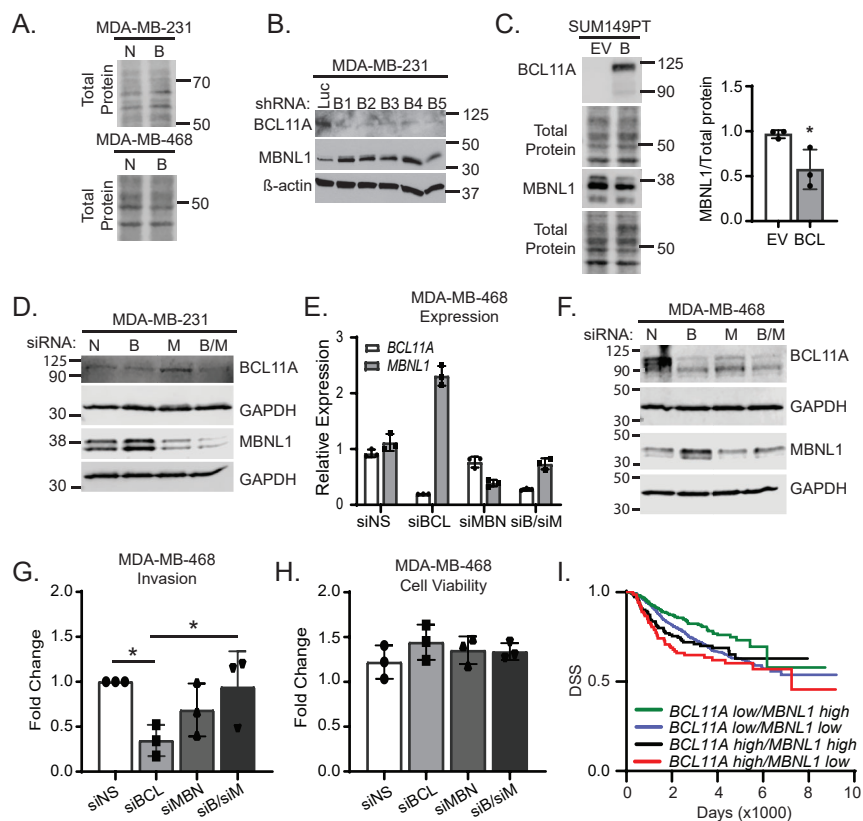
Supplemental Figure 1. Transient *BCL11A* silencing does not impact growth in TNBC cell lines. A) MDA-MB-231 and B) MDA-MB-468 cells were transiently transfected with either siRNA directed to the *BCL11A* gene or a non-specific siRNA control, and Cyto-X colorimetric cell counting reagent was used to quantify cell number over time. Data is expressed as fold change over day 1 of plating. Error bars represent the standard deviation of 3 independent experiments, each performed in quadruplicate.

Supplemental Figure 2



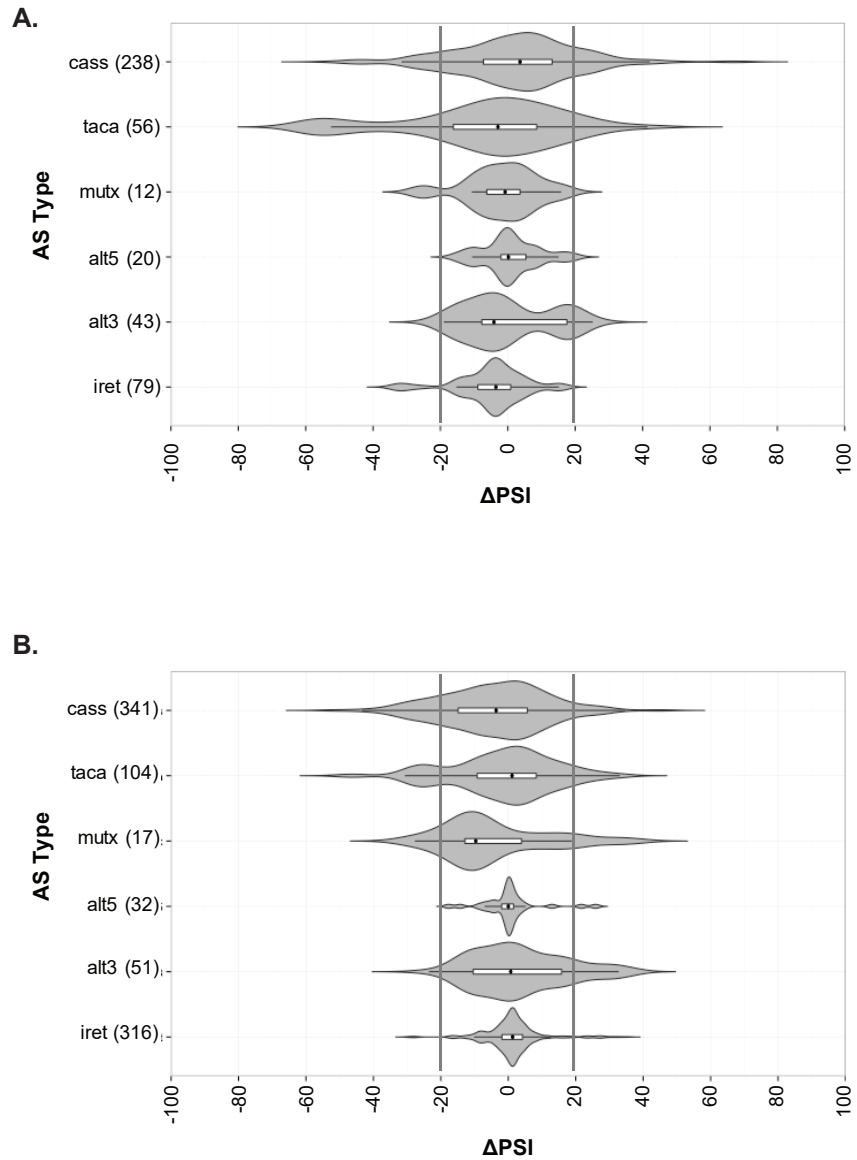
Supplemental Figure 2. BCL11A enhances metastatic outgrowth of TNBC cells in mouse lung. Hematoxylin and eosin-stained sections of mouse lungs 31 days after left-ventricular xenograft with empty-vector (EV) or BCL11A-overexpressing (BCL11A) SUM149PT-FFluc cells. Arrow points to metastatic lesion, scale bar = 100 μ m.

Supplemental Figure 3



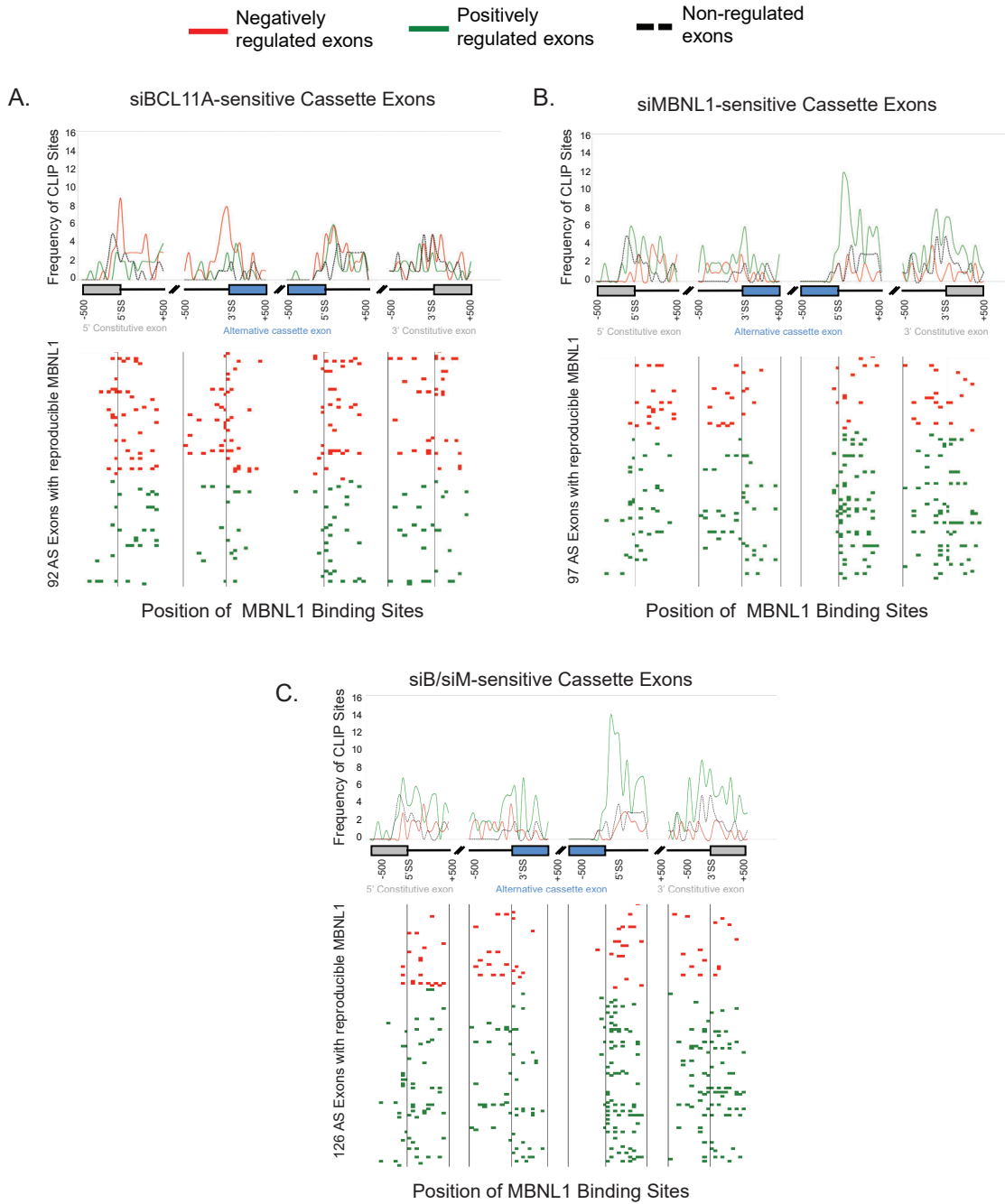
Supplemental Figure 3. BCL11A suppression of MBNL1 sustains invasion of TNBC cells. A) Left: Total protein for western blots in Figure 4B; N=non-targeting control, B=siBCL 11A. B) Lentinal transduction of shRNAs targeting luciferase (Luc) or BCL11A (5 clones; labeled B1-B5). C) Representative western blot and quantitation of decreased MBNL1 protein expression in SUM149PT cells from 3 independent experiments and normalized to total protein; EV=empty vector control, B=BCL11A-overexpressing cells. Significance was determined using an unpaired *t*-test, **p*<0.05. D) Representative western blot of MDA-MB-231 cells with transient silencing of BCL11A, MBNL1 or the combination; N=siNS, B=siBCL11A, M=siMBNL1, B/M= siBCL11A/siMBNL1. E) Expression of BCL11A and MBNL1 in MDA-MB-468 cells after transient silencing of BCL11A or MBNL1 or the combination as measured by RT-qPCR. F) Representative western blots of MDA-MB-468 cells transiently silenced as in E). G) Fold change in invasion (over 16 hours) was determined after 48 hours of BCL11A, MBNL1 or BCL11A and MBNL1 silencing in the MDA-MB-468 cells. Invasion experiments were performed in technical duplicates in 3 independent experiments, significance was determined using an unpaired *t*-test, **p*<0.05. H) Fold change in cell growth 3 days after transient silencing of BCL11A, MBNL1 or the combination in MDA-MB-468 cells as measured using the CytoX colorimetric assay. I) Disease specific survival (DSS) was calculated using the METABRIC dataset. BCL11A High + MBNL1 High (n=148), BCL11A High + MBNL1 Low (n=148), BCL11A Low + MBNL1 High (n= 345), BCL11A Low + MBNL1 Low (1330), *p*=0.002.

Supplemental Figure 4



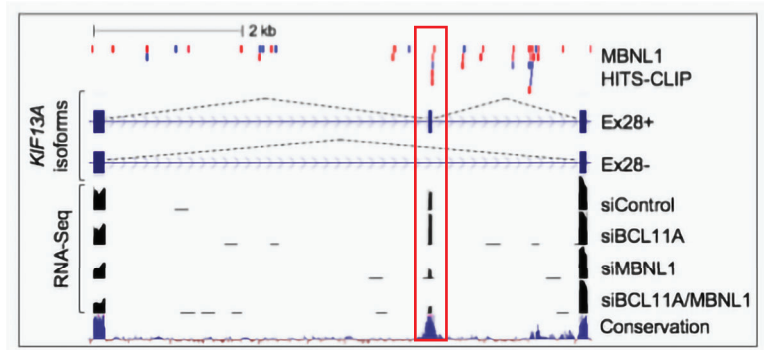
Supplemental Figure 4. Classification of splicing events with modulation of MBNL1 or the combination of MBNL1 and BCL11A. A) Violin plot of statistically significant splicing changes in MDA-MB-231 cells comparing siNS versus siMBNL1-transfected cells and B) siNS versus siBCL11A/siMBNL1. Criteria: $p < 0.05$ and $FDR < 0.05$. Cass=cassette exons, taca=tandom cassette exons, mutx=mutually exclusive exons, alt5=5' splice site selection, alt3=3' splice site selection, iret=intron retention.

Supplemental Figure 5



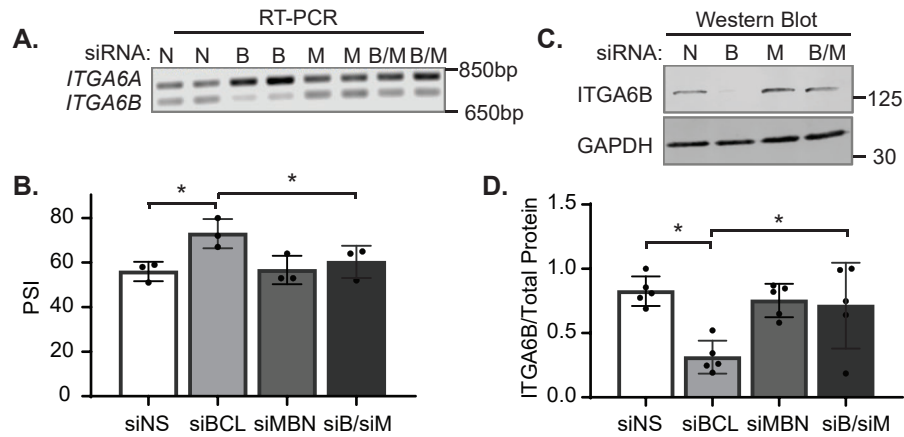
Supplemental Figure 5. Reproducible MBNL1 CLIP sites relative to sensitive cassette exons identified by RNA-Seq analysis. For all panels, Top: Genome-wide frequency of MBNL1 CLIP sites, red=negatively regulated exons, green=positively regulated exons, black=non-regulated exons. Bottom: Position of reproducible MBNL1 binding sites relative to AS exons with A) siBCL11A; red=51 repressed exons, green=41 enhanced exons; B) siMBNL1; red=64 repressed exons, green=64 enhanced exons; C) siB/siM; red=41 repressed exons, green=85 enhanced exons.

Supplemental Figure 6



Supplemental Figure 6. BCL11A promotes alternative splicing of an MBNL1-sensitive exon of *KIF13A*. Top: CLIP reads from biologically reproducible replicates of MBNL1-bound libraries; Library 1=red and Library 2=blue, Middle: diagram of AS *KIF13A* isoforms +/- exon 28 (red outline), Bottom: corresponding RNA-Seq tracks for each siRNA condition and Conservation (blue).

Supplemental Figure 7



Supplemental Figure 7. BCL11A promotes expression of the *ITGA6* stem-like splice form (*ITGA6B*). A) Representative gel image of *ITGA6* alternative splicing determined by RT-PCR in the MDA-MB-468 TNBC cell line. B) Quantitation of *ITGA6* alternative splicing in 3 independent experiments, each done in duplicate. C) Representative western blot of the *ITGA6B* stem-like splice form in the MDA-MB-468 cell line. D) Quantitation of protein expression of the *ITGA6B* isoform in 3 independent experiments. Significance of differences were calculated using an unpaired *t*-test, **p*<0.05.

Table 1. The BCL11A-regulated transcriptome in MDA-MB-231 TNBC cells

gene_symbol	logFC	PValue	adjusted Pvalue
ACADM	1.18	2.65E-18	1.25E-16
ACADSB	-1.06	5.07E-13	1.37E-11
ACOX2	-1.09	9.14E-09	1.32E-07
ACSS3	-1.60	8.89E-16	3.27E-14
ADAM28	-1.60	3.34E-12	7.94E-11
ADAM8	-1.97	6.23E-51	3.02E-48
ADAMTS9	-2.11	9.04E-109	4.20E-105
ADAP1	-2.19	2.27E-22	1.65E-20
ADIPOR1	-1.09	1.08E-26	1.14E-24
AIM2	-0.94	4.96E-05	3.66E-04
AKNA	-1.32	5.62E-16	2.09E-14
ALDH1A3	-1.18	1.79E-12	4.39E-11
ALDOC	-2.20	1.17E-09	1.92E-08
AMPD3	-1.89	4.65E-33	8.13E-31
ANKRD52	1.39	4.33E-48	1.90E-45
ANXA1	1.81	1.42E-138	1.65E-134
ANXA10	-1.37	2.90E-08	3.88E-07
ANXA8L2	-0.95	8.49E-08	1.05E-06
APOL3	-1.05	3.32E-09	5.11E-08
AQP1	-2.35	2.73E-22	1.97E-20
AQP3	-2.06	1.00E-20	6.12E-19
AREG	-1.41	9.78E-13	2.50E-11
ARFIP1	1.01	4.41E-22	3.10E-20
ARG2	-1.51	3.35E-25	3.11E-23
ARHGEF26	1.52	2.65E-28	3.20E-26
ARL13B	1.41	1.63E-29	2.22E-27
ARL6	-1.59	2.92E-10	5.30E-09
ARL6IP5	-0.94	1.19E-20	7.19E-19
ARRDC3	1.17	1.10E-41	3.45E-39
ARSE	-1.45	2.74E-09	4.26E-08
ARSI	-2.00	8.14E-21	5.07E-19
ARTN	-1.22	1.59E-03	8.19E-03
ASB2	-2.04	4.10E-25	3.78E-23
B3GNT5	-1.36	9.16E-21	5.63E-19
BATF	-1.53	3.23E-06	2.99E-05
BDH2	-1.35	3.21E-14	1.00E-12
BET1	-1.14	1.16E-10	2.23E-09
BICC1	-1.52	4.45E-27	4.83E-25
BMPER	-1.97	3.58E-33	6.30E-31
BRCA2	1.31	1.41E-35	3.03E-33
BUB1B	1.02	1.07E-26	1.13E-24
C10orf116	-1.14	4.21E-15	1.45E-13
C10orf118	-1.26	1.27E-17	5.45E-16
C10orf2	0.97	2.44E-14	7.74E-13
C11orf82	1.13	8.39E-19	4.23E-17
C11orf86	-2.20	4.55E-09	6.90E-08
C12orf57	-1.31	5.91E-13	1.58E-11
C15orf48	-1.34	8.82E-40	2.44E-37
C16orf45	-1.15	2.61E-08	3.53E-07
C17orf28	-1.72	2.70E-17	1.12E-15
C1orf112	1.28	7.72E-29	9.90E-27
C1orf135	1.00	7.42E-11	1.47E-09
C1orf38	-1.37	4.16E-06	3.78E-05
C1QTNF9B-AS1	1.68	2.18E-05	1.73E-04
C1R	-1.14	6.20E-06	5.49E-05
C21orf119	-1.59	2.98E-05	2.31E-04
C2CD3	1.41	4.79E-49	2.14E-46
C3	-1.61	1.15E-18	5.78E-17
C5orf28	1.34	2.90E-13	8.09E-12
C6orf226	-1.41	3.27E-07	3.66E-06
C9orf40	1.00	1.47E-09	2.39E-08
CA11	-2.78	7.05E-15	2.35E-13
CA9	-2.43	2.64E-15	9.29E-14
CACFD1	-1.47	1.68E-16	6.52E-15
CALB2	-1.30	5.25E-42	1.67E-39
CAPN5	-1.26	5.71E-15	1.93E-13
CARD11	-1.15	2.25E-15	7.98E-14
CARD6	-1.11	1.40E-08	1.97E-07
CATSPER1	-1.95	6.32E-21	4.00E-19
CCDC28B	-1.42	1.69E-07	1.98E-06
CCDC69	-1.27	1.93E-26	2.00E-24
CCNA1	-1.21	8.87E-05	6.25E-04
CCNT2	-1.19	1.39E-12	3.47E-11
CD27-AS1	-1.10	9.96E-06	8.48E-05
CD2AP	1.12	5.79E-47	2.39E-44
CD68	-1.06	8.06E-24	6.59E-22
CD74	-1.21	3.59E-43	1.19E-40
CD82	-1.17	1.47E-36	3.52E-34
CDC37L1	-0.86	5.04E-04	2.96E-03
CDC44	1.03	9.60E-22	6.52E-20
CDC45	0.91	4.36E-22	3.07E-20
CDK15	-1.23	4.94E-11	1.01E-09
CDK2	1.98	5.46E-66	6.04E-63
CDK6	1.81	7.29E-107	2.58E-103
CDKL1	1.18	1.10E-08	1.58E-07
CDKN1C	-2.12	2.34E-12	5.68E-11
CDV3	1.37	2.51E-73	3.65E-70
CENPF	1.10	5.25E-51	2.60E-48
CENPQ	1.94	9.77E-56	6.48E-53
CEP19	-1.42	1.45E-07	1.72E-06
CEP57L1	1.61	5.23E-24	4.35E-22
CFP	-2.26	1.18E-25	1.14E-23
CHEK2	0.87	1.30E-03	6.86E-03
CHMP1B	-1.05	3.79E-13	1.05E-11
CHST2	-1.03	4.76E-09	7.19E-08
CIITA	-0.97	7.51E-09	1.10E-07
CKS1B	1.07	1.56E-29	2.13E-27

CLSTN3	-2.00	8.71E-32	1.42E-29
CLU	-1.32	1.90E-31	3.01E-29
CMTM6	1.53	2.79E-65	2.95E-62
CNIH3	-0.95	9.71E-09	1.40E-07
GNKSR3	1.14	4.31E-18	1.96E-16
COL17A1	-1.36	2.49E-32	4.23E-30
COL1A1	-2.14	8.68E-21	5.38E-19
COL4A5	-1.58	5.28E-30	7.34E-28
COL5A1	-1.36	2.16E-44	7.84E-42
COL6A3	-1.13	4.65E-20	2.64E-18
COL7A1	-1.27	1.54E-30	2.24E-28
CORO2B	-1.95	3.88E-22	2.76E-20
CPT1C	-2.18	2.24E-14	7.15E-13
CRISPLD2	-1.63	1.51E-44	5.58E-42
CSF1R	-1.93	1.21E-13	3.55E-12
CSGALNACT1	-0.97	1.02E-08	1.46E-07
CST1	-2.99	3.78E-79	7.32E-76
CST2	-1.67	2.74E-12	6.55E-11
CST4	-2.49	7.99E-55	5.02E-52
CST7	-1.89	8.78E-25	7.78E-23
CTSW	-2.15	7.50E-07	7.77E-06
CX3CL1	-2.33	3.45E-27	3.80E-25
CXADR	-1.47	1.42E-18	6.95E-17
CXCL11	-1.65	8.15E-08	1.01E-06
CYB5B	1.16	2.08E-36	4.88E-34
CYTH4	-2.65	2.18E-17	9.15E-16
DAP	-1.38	5.01E-22	3.49E-20
DCAF16	1.23	4.69E-29	6.05E-27
DCP2	1.11	5.05E-34	9.30E-32
DEPDC1B	1.21	5.91E-20	3.32E-18
DIAPH3	1.08	1.69E-31	2.70E-29
DKC1	1.09	5.52E-44	1.91E-41
DMBT1	-1.64	9.10E-53	5.03E-50
DNAJA2	-1.05	7.46E-31	1.11E-28
DOCK4	-1.06	2.38E-28	2.90E-26
DONSON	1.05	2.66E-25	2.50E-23
DTL	1.13	7.86E-34	1.40E-31
DUSP6	-1.18	1.86E-41	5.62E-39
DYRK1B	-1.59	1.46E-11	3.19E-10
EDN2	-2.40	4.20E-15	1.45E-13
EFR3A	-1.13	3.49E-43	1.18E-40
EGLN3	-1.14	5.77E-13	1.54E-11
EHD3	-1.33	4.17E-12	9.76E-11
EHF	-1.47	2.01E-63	2.02E-60
ELFN2	-1.36	1.14E-22	8.45E-21
ELL2	-1.17	6.56E-36	1.45E-33
ELOVL7	1.17	2.20E-07	2.53E-06
ENO2	-1.51	1.14E-34	2.27E-32
ENPP4	-1.83	6.81E-17	2.73E-15
ENTPD3	-2.99	9.13E-30	1.26E-27
EPB41L4B	-1.11	1.18E-15	4.32E-14
EPHA4	-1.10	1.32E-13	3.85E-12
ERI2	1.01	1.85E-11	3.99E-10
ESAM	-1.29	1.33E-26	1.40E-24
ETF1	1.19	7.60E-59	6.09E-56
ETV7	-2.04	1.84E-12	4.51E-11
EV12B	-1.21	3.15E-07	3.53E-06
F2RL3	-2.62	9.52E-17	3.77E-15
FADS2	-1.45	7.02E-47	2.81E-44
FAIM3	-1.86	1.36E-17	5.83E-16
FAM171B	-1.20	4.31E-10	7.60E-09
FAM176A	-1.19	2.19E-14	7.02E-13
FAM210B	-1.69	1.53E-31	2.46E-29
FAM43A	-2.36	2.72E-18	1.28E-16
FAM54A	1.29	4.03E-18	1.84E-16
FAM63A	-1.22	2.42E-09	3.79E-08
FAM63B	-0.98	2.03E-07	2.35E-06
FAM83A	-1.97	2.24E-34	4.29E-32
FAM84B	-1.16	4.48E-17	1.82E-15
FAM89A	1.40	1.80E-04	1.19E-03
FAM96A	-1.50	5.71E-15	1.93E-13
FANCB	1.51	6.59E-19	3.34E-17
FBXL12	0.87	2.07E-07	2.40E-06
FHOD3	-1.24	1.47E-42	4.73E-40
FIGL1	1.13	6.80E-18	3.00E-16
FLG	1.07	6.41E-22	4.40E-20
FLJ20021	-1.10	1.46E-03	7.60E-03
FOXQ1	-1.18	1.55E-11	3.37E-10
FPR1	-1.91	1.39E-25	1.33E-23
FST	1.01	1.03E-16	4.04E-15
FUCA1	-1.19	3.49E-36	7.95E-34
G3BP1	1.06	2.44E-45	9.44E-43
GALNT12	-2.15	2.26E-13	6.36E-12
GALNT3	-1.55	1.98E-24	1.71E-22
GALNT6	-1.75	4.79E-44	1.69E-41
GBP2	-2.23	1.71E-54	1.05E-51
GDF5	-1.51	1.50E-10	2.83E-09
GDPD5	-2.11	2.80E-35	5.80E-33
GEMIN5	1.49	1.07E-66	1.24E-63
GFPT2	-1.53	4.82E-41	1.42E-38
GGT1	-1.56	2.10E-10	3.88E-09
GINS1	1.16	1.88E-25	1.78E-23
GINS2	1.08	3.07E-18	1.43E-16
GNG11	-1.29	1.02E-35	2.21E-33
GOLGA2	-1.16	6.07E-33	1.05E-30
GPR110	-1.05	1.02E-20	6.20E-19
GPR116	-2.14	2.31E-128	1.34E-124
GPR68	-1.77	2.17E-29	2.90E-27
GPR87	-2.95	6.85E-13	1.81E-11

GPRC5C	-1.67	8.71E-17	3.46E-15
H1F0	-1.13	4.24E-21	2.77E-19
H2AFJ	-1.15	1.63E-12	4.03E-11
HCAR1	-3.13	1.43E-18	6.95E-17
HELLS	1.23	1.17E-27	1.33E-25
HHIP	-1.19	2.23E-05	1.77E-04
HIP1	-1.13	8.46E-20	4.68E-18
HIST2H3D	0.79	5.66E-05	4.14E-04
HMHA1	-1.21	6.73E-25	6.02E-23
HMMR	1.48	2.04E-31	3.19E-29
HMOX1	1.24	4.24E-20	2.44E-18
HN1L	1.24	6.62E-53	3.75E-50
HS3ST1	-1.84	2.64E-08	3.56E-07
HTR7	-1.37	5.88E-08	7.42E-07
HTRA3	-1.11	3.02E-08	4.02E-07
ICAM1	-1.02	9.44E-23	7.05E-21
ICAM2	-1.04	4.58E-09	6.94E-08
ICOSLG	-1.28	1.20E-09	1.98E-08
ID3	1.04	7.22E-13	1.90E-11
IDH1	-1.17	9.97E-29	1.25E-26
IDS	-1.05	5.11E-18	2.30E-16
IFI6	-1.47	1.39E-09	2.26E-08
IFITM1	-1.56	9.81E-19	4.93E-17
IFITM2	-1.27	2.68E-18	1.26E-16
IGF2BP3	-1.28	4.97E-27	5.37E-25
IL1B	-2.14	1.58E-07	1.86E-06
IL1RAP	-1.19	1.06E-19	5.78E-18
IL24	-2.88	4.18E-57	3.13E-54
IL31RA	-0.92	1.53E-12	3.79E-11
IL6	-1.53	2.29E-31	3.53E-29
IL8	-0.69	4.19E-04	2.52E-03
INSIG1	-0.97	5.19E-15	1.76E-13
IPPK	1.21	2.85E-17	1.18E-15
IRF7	-1.34	4.96E-08	6.34E-07
IRF9	-1.32	7.72E-14	2.32E-12
ISG20	-1.43	2.22E-08	3.02E-07
ISM1	-2.25	2.03E-16	7.84E-15
ITGA2	-1.58	8.43E-83	2.17E-79
ITGB1	1.25	5.96E-69	7.69E-66
ITGB2	-1.31	1.02E-12	2.61E-11
JUP	-1.62	2.02E-35	4.23E-33
KAL1	-1.49	3.57E-50	1.62E-47
KCNN4	-1.15	5.16E-21	3.31E-19
KCTD12	-1.11	4.32E-12	1.01E-10
KIAA0226	1.15	1.71E-21	1.15E-19
KIAA0247	1.09	1.77E-10	3.31E-09
KIAA1199	-2.08	8.06E-129	6.24E-125
KIAA1468	-1.26	6.31E-21	4.00E-19
KIAA1524	1.14	3.69E-40	1.03E-37
KISS1	0.96	9.84E-09	1.42E-07
KLF11	1.20	2.59E-14	8.18E-13
KLHL15	1.24	3.36E-18	1.55E-16
KLHL23	1.02	1.65E-07	1.94E-06
KLHL5	-0.95	1.88E-24	1.63E-22
KRAS	-1.14	2.38E-12	5.76E-11
KRT15	-1.50	8.74E-12	1.95E-10
KRT19	-1.32	1.79E-50	8.51E-48
KRT81	-1.64	5.81E-25	5.28E-23
LACC1	-1.05	1.41E-06	1.40E-05
LAPTM5	-2.50	1.15E-96	3.33E-93
LAT2	-2.75	1.45E-20	8.68E-19
LEPREL4	-1.24	2.57E-13	7.18E-12
LFNG	-1.74	1.62E-14	5.26E-13
LGALS12	-1.44	2.32E-04	1.49E-03
LINC00460	-1.30	9.23E-04	5.07E-03
LIPG	-1.73	3.51E-20	2.05E-18
LIPH	-0.94	4.24E-10	7.50E-09
LMNB1	1.56	1.60E-61	1.43E-58
LOC100288077	-3.14	1.38E-56	1.00E-53
LOC100499177	1.21	7.69E-13	2.02E-11
LOC339894	-2.49	2.89E-15	1.01E-13
LOC388796	1.00	9.11E-08	1.11E-06
LOC646576	-1.78	3.00E-06	2.80E-05
LOC81691	1.03	2.77E-06	2.61E-05
LOXL1	-1.01	3.23E-08	4.27E-07
LPXN	-2.13	7.07E-56	4.83E-53
LRP10	-1.17	4.05E-43	1.33E-40
LTBP1	-1.29	1.38E-43	4.71E-41
LTBP2	-1.20	3.11E-17	1.28E-15
LTBP3	-1.35	7.72E-13	2.02E-11
LYPD1	-0.98	1.54E-07	1.82E-06
M6PR	1.05	8.15E-36	1.79E-33
MALL	-1.50	4.24E-07	4.65E-06
MAP3K13	-1.64	1.69E-31	2.70E-29
MAP3K3	1.59	6.18E-62	5.98E-59
MAP3K4	1.06	3.86E-20	2.24E-18
MAPRE3	-1.46	1.67E-06	1.63E-05
MB	-1.78	3.11E-13	8.63E-12
MBNL1	1.47	7.21E-75	1.12E-71
MBTPS2	-1.64	7.42E-11	1.47E-09
MCM10	1.12	1.95E-35	4.16E-33
MCM7	1.02	2.21E-40	6.41E-38
MCM8	1.00	5.72E-22	3.95E-20
MDFIC	1.41	5.42E-15	1.84E-13
MEF2C	-1.50	5.80E-16	2.15E-14
MGAT5B	-1.35	5.96E-11	1.20E-09
MIA-RAB4B	-1.50	2.79E-08	3.75E-07
MIR936	-4.77	1.35E-07	1.61E-06
MIS18A	0.98	4.09E-11	8.41E-10

MLKL	-1.94	1.50E-25	1.44E-23
MMP1	-3.41	1.68E-191	3.91E-187
MMP14	-1.25	5.50E-59	4.56E-56
MMS22L	1.14	1.56E-21	1.06E-19
MOB3A	-1.13	4.17E-20	2.41E-18
MRPL32	-1.05	1.97E-12	4.80E-11
MSRB3	1.15	2.33E-16	8.98E-15
MST4	-1.19	2.13E-17	8.94E-16
MT1JP	-1.30	2.09E-04	1.36E-03
MT1X	-1.50	1.38E-18	6.77E-17
MTMR6	1.17	3.84E-21	2.52E-19
MTRF1	1.04	7.34E-06	6.40E-05
MXD4	-1.57	1.44E-27	1.62E-25
MYH16	-1.23	6.83E-06	6.00E-05
MYLIP	0.98	6.84E-10	1.18E-08
NAA50	1.08	1.17E-38	3.09E-36
NBEA	-1.27	9.60E-13	2.46E-11
NFE2L3	1.08	2.64E-44	9.45E-42
NFIB	1.94	3.38E-41	1.01E-38
NGEF	-1.28	9.10E-15	3.01E-13
NGFR	-1.32	2.19E-08	2.99E-07
NIPA1	-1.28	1.22E-18	6.09E-17
NOG	-1.45	1.62E-16	6.31E-15
NPAS2	-1.20	5.61E-17	2.26E-15
NRGN	-1.22	2.37E-04	1.52E-03
NT5DC3	1.43	4.85E-38	1.27E-35
OAS2	-1.08	3.07E-11	6.42E-10
OBFC2A	1.31	3.05E-36	7.08E-34
ORAI3	-1.18	3.99E-12	9.35E-11
ORC6	1.05	8.03E-13	2.09E-11
OSTM1	-1.26	1.86E-19	9.88E-18
OTUD6B	2.09	5.23E-34	9.49E-32
PARPBP	1.09	3.92E-18	1.80E-16
PBX1	-1.14	2.12E-20	1.26E-18
PCDH1	-1.31	1.60E-11	3.47E-10
PCNXL2	-1.32	1.04E-20	6.34E-19
PCSK1N	-1.34	8.84E-04	4.87E-03
PCYOX1L	-1.09	8.47E-10	1.43E-08
PDGFRB	-2.63	3.52E-16	1.33E-14
PDP1	-1.04	3.72E-30	5.24E-28
PFKFB4	-1.29	2.48E-18	1.17E-16
PGF	-2.36	2.71E-26	2.76E-24
PHF16	1.19	1.08E-12	2.73E-11
PIK3R1	-0.86	1.00E-08	1.45E-07
PION	-1.27	1.02E-04	7.07E-04
PITPNC1	-1.54	2.90E-17	1.20E-15
PITPNM3	0.96	1.28E-18	6.31E-17
PLAGL2	1.17	1.64E-12	4.05E-11
PLAT	-1.85	7.79E-107	2.58E-103
PLAUR	-1.12	2.49E-33	4.41E-31
PLB1	-1.82	7.29E-35	1.46E-32
PLEKHN1	-1.13	1.22E-05	1.02E-04
PLK1	0.93	6.80E-21	4.27E-19
PLSCR4	2.57	6.86E-23	5.19E-21
PMCH	1.39	7.56E-06	6.59E-05
PNMAL1	-1.24	3.35E-18	1.55E-16
PNRC1	-1.26	1.41E-12	3.50E-11
POLR3G	1.30	2.28E-15	8.07E-14
PPAT	1.20	1.32E-39	3.60E-37
PPME1	1.48	5.52E-80	1.16E-76
PPP1R15A	0.94	4.88E-28	5.75E-26
PRKCD	-1.16	6.19E-17	2.49E-15
PRMT3	1.60	1.67E-52	8.80E-50
PROCR	-1.37	1.21E-27	1.37E-25
PROM2	-1.87	5.29E-16	1.96E-14
PRSS1	-2.13	4.73E-09	7.15E-08
PRSS2	-2.86	9.92E-14	2.95E-12
PRSS22	-2.00	6.62E-07	6.95E-06
PRSS3	-1.31	1.68E-12	4.15E-11
PRSS3P2	-2.28	6.31E-09	9.32E-08
PTGES	-1.40	3.41E-40	9.66E-38
PTK2	-1.46	2.98E-51	1.51E-48
PTK2B	-1.31	4.12E-18	1.88E-16
PTPN22	-1.96	2.37E-16	9.10E-15
PTPN6	-1.74	2.06E-12	5.02E-11
PTPRJ	-1.39	2.18E-50	1.01E-47
PTPRU	-1.68	9.54E-32	1.55E-29
PYCARD	-1.19	1.38E-06	1.38E-05
RAB11FIP2	-0.99	5.09E-10	8.90E-09
RAB20	-1.01	3.15E-06	2.93E-05
RAB3D	-1.69	4.53E-29	5.88E-27
RAB4B	-1.32	9.46E-05	6.63E-04
RABL3	1.12	5.21E-10	9.10E-09
RACGAP1	1.13	8.44E-45	3.22E-42
RAET1G	-1.21	1.67E-05	1.36E-04
RAI14	1.09	1.69E-41	5.17E-39
RAMP1	-1.39	4.36E-20	2.50E-18
RARRES3	-1.18	3.05E-24	2.62E-22
RASD1	-2.34	4.33E-22	3.06E-20
RASGRP3	-1.14	5.77E-11	1.16E-09
RDH11	-1.23	1.48E-41	4.58E-39
RECK	-1.21	1.98E-07	2.30E-06
REEP6	-1.68	6.91E-12	1.57E-10
RFC4	1.12	1.99E-34	3.85E-32
RGL1	-1.58	1.06E-26	1.13E-24
RHEBL1	1.55	7.13E-08	8.88E-07
RILP	-1.20	4.50E-11	9.23E-10
RIPK4	-1.47	7.59E-18	3.34E-16
RNASE1	-2.88	1.56E-19	8.37E-18

RNF128	-1.37	5.59E-14	1.72E-12
RNF219	1.01	1.24E-10	2.35E-09
ROBO4	-1.58	2.64E-27	2.91E-25
ROGDI	-1.04	1.16E-05	9.75E-05
RPIA	1.34	1.62E-21	1.09E-19
RPS27L	1.91	3.55E-81	8.24E-78
RPS6KA2	-1.97	2.32E-56	1.63E-53
RSAD1	1.12	2.20E-14	7.03E-13
RTP4	-1.77	2.92E-05	2.27E-04
S100A5	-1.52	1.69E-08	2.34E-07
SCG5	-1.10	9.63E-13	2.47E-11
SCNN1A	-1.66	1.28E-19	6.88E-18
SCP2	-1.05	2.29E-31	3.53E-29
SEC24A	-1.12	1.08E-25	1.06E-23
SEC24D	-1.17	2.90E-37	7.33E-35
SECTM1	-1.97	1.24E-27	1.40E-25
SELM	-1.38	2.02E-17	8.52E-16
SEMA4D	-1.67	6.16E-25	5.55E-23
SEMA6B	-1.88	2.35E-40	6.73E-38
SERINC5	1.18	1.02E-16	4.02E-15
SERPINA1	-2.69	2.85E-72	3.89E-69
SERPINB2	-1.32	2.61E-09	4.07E-08
SETD8	1.06	7.05E-24	5.79E-22
SGPL1	1.02	8.14E-32	1.34E-29
SGTB	-1.14	7.94E-11	1.56E-09
SH2B3	-1.59	6.74E-62	6.26E-59
SH3BP1	-1.87	2.62E-20	1.55E-18
SHC3	-1.19	2.26E-24	1.94E-22
SHISA2	-1.32	1.64E-17	6.99E-16
SHISA4	-1.13	1.19E-10	2.27E-09
SHROOM2	-2.38	4.21E-34	7.94E-32
SIGIRR	-1.35	1.56E-05	1.27E-04
SIPA1L1	-1.02	4.58E-24	3.85E-22
SKA1	1.32	1.20E-30	1.75E-28
SKP2	1.12	6.10E-33	1.05E-30
SLC15A3	-1.31	5.00E-13	1.36E-11
SLC16A4	-2.19	5.76E-18	2.55E-16
SLC17A5	-0.91	5.16E-12	1.19E-10
SLC17A9	1.09	2.18E-21	1.45E-19
SLC18B1	-1.40	1.28E-09	2.09E-08
SLC22A18	-1.24	1.88E-06	1.82E-05
SLC2A3	-1.78	2.37E-45	9.32E-43
SLC35A1	1.26	1.61E-10	3.02E-09
SLC4A11	-1.16	1.06E-10	2.03E-09
SLC7A2	1.09	1.80E-18	8.67E-17
SLC7A7	-2.05	1.60E-13	4.59E-12
SLC9A7	-1.31	1.10E-44	4.13E-42
SLCO3A1	-1.28	9.69E-12	2.16E-10
SLCO4A1	-1.58	2.65E-12	6.37E-11
SLIT2	-0.99	1.93E-15	6.88E-14
SNCG	-2.20	2.17E-18	1.04E-16
SNHG1	1.02	3.34E-30	4.76E-28
SNORA65	1.76	2.46E-04	1.57E-03
SNORA76	1.36	1.17E-07	1.41E-06
SNRPB2	1.16	5.23E-34	9.49E-32
SNX9	-1.23	1.78E-29	2.41E-27
SORL1	-1.68	1.84E-68	2.25E-65
SOX4	-2.39	4.44E-35	9.04E-33
SPAG4	-1.59	4.02E-11	8.30E-10
SPDEF	-2.75	7.81E-52	4.03E-49
SPHK1	-1.03	5.28E-08	6.71E-07
SPINK4	-2.41	2.89E-31	4.41E-29
SPINT1	-2.36	8.54E-21	5.30E-19
SRGN	-0.98	8.07E-22	5.50E-20
SSH2	-1.38	1.64E-16	6.38E-15
SSR3	1.16	3.14E-53	1.82E-50
ST14	-1.61	5.55E-14	1.71E-12
ST3GAL5	-2.77	6.32E-55	4.08E-52
ST3GAL6	-1.46	4.71E-08	6.05E-07
STAM2	1.15	4.53E-29	5.88E-27
STARD10	-1.28	3.63E-17	1.48E-15
STC1	-1.88	2.55E-57	1.97E-54
STMN3	-1.50	3.59E-25	3.32E-23
STX2	1.33	3.69E-30	5.23E-28
SUCLG2	1.17	3.39E-28	4.06E-26
SYPL1	1.08	1.36E-24	1.19E-22
SYT12	-1.41	1.61E-08	2.24E-07
SYTL2	-1.03	4.73E-11	9.68E-10
TAGLN	1.20	5.30E-13	1.42E-11
TBC1D19	-1.44	8.54E-09	1.24E-07
TBC1D9	-1.03	7.26E-25	6.46E-23
TCP11L2	-1.20	8.05E-12	1.81E-10
TEAD1	1.44	5.90E-76	9.78E-73
TEAD4	0.88	1.57E-09	2.52E-08
TFAP2C	-1.22	5.87E-11	1.18E-09
TFEB	-1.72	8.03E-12	1.81E-10
TFE2	-0.99	9.19E-05	6.46E-04
TFPI2	-1.54	2.08E-37	5.31E-35
TGFB1	-1.31	1.20E-17	5.17E-16
THBD	-1.05	7.61E-20	4.23E-18
TIMP4	-1.23	4.94E-05	3.65E-04
TLR2	-0.81	1.10E-05	9.27E-05
TM7SF2	-1.94	6.49E-27	6.97E-25
TMEM132A	-1.88	9.61E-53	5.19E-50
TMEM134	-1.28	5.03E-09	7.55E-08
TMEM154	-1.73	1.03E-14	3.40E-13
TMEM156	-1.07	2.01E-10	3.72E-09
TMEM158	-1.21	1.13E-13	3.32E-12
TMEM25	-1.22	3.60E-15	1.25E-13

TMEM45B	-2.66	1.45E-14	4.73E-13
TMEM53	-1.41	8.83E-07	9.03E-06
TMEM55A	-1.05	3.69E-06	3.39E-05
TMEM87B	-1.16	4.38E-24	3.70E-22
TMEM92	-1.15	2.54E-12	6.10E-11
TMPO	0.98	6.10E-31	9.15E-29
TNFRSF10C	-2.99	8.04E-12	1.81E-10
TNFRSF14	-1.22	4.04E-08	5.25E-07
TNFSF10	-1.21	5.24E-30	7.33E-28
TOX2	-1.37	1.53E-08	2.13E-07
TP53I11	-1.57	8.36E-18	3.64E-16
TPBG	-1.39	5.00E-23	3.82E-21
TRANK1	-0.90	3.05E-07	3.43E-06
TRAPPC1	-1.32	1.08E-15	3.95E-14
TRAPPC6A	-3.18	1.87E-08	2.57E-07
TRIM2	-1.16	3.68E-23	2.87E-21
TRNP1	-1.17	8.10E-07	8.35E-06
TRPV2	-2.01	7.31E-13	1.92E-11
TSG101	-1.20	2.58E-34	4.91E-32
TSPAN13	-1.42	1.97E-07	2.29E-06
TSPAN9	-1.18	1.24E-23	9.93E-22
TLL4	1.26	2.26E-17	9.44E-16
ITPAL	2.14	2.25E-78	4.02E-75
TTYH3	-1.53	2.73E-21	1.81E-19
TUBA1A	-1.64	5.85E-47	2.39E-44
TXLNA	1.14	6.94E-37	1.70E-34
TYMP	-1.72	1.06E-10	2.03E-09
UBE2E2	-1.14	5.34E-13	1.43E-11
UBE2E3	1.49	2.94E-37	7.35E-35
UNG	1.07	7.85E-34	1.40E-31
USP20	-1.61	2.92E-26	2.95E-24
VEGFA	-1.37	2.60E-60	2.23E-57
VIPR1	-1.72	7.18E-37	1.74E-34
VPS33A	-1.20	4.65E-34	8.65E-32
VSTM2L	-1.20	1.66E-25	1.58E-23
VTA1	-1.20	1.48E-22	1.08E-20
VTI1B	-1.52	1.93E-34	3.77E-32
VWA1	-1.45	1.83E-18	8.82E-17
WASF1	1.31	1.41E-05	1.17E-04
WDR47	-0.98	6.00E-11	1.20E-09
WEE1	1.77	5.71E-54	3.40E-51
WIP1	-1.27	2.14E-29	2.87E-27
WNT7B	-1.59	4.50E-09	6.83E-08
WT1	-1.20	3.24E-10	5.84E-09
WTIP	0.87	1.95E-11	4.20E-10
XRCC2	1.62	6.09E-26	5.97E-24
YES1	1.03	7.03E-38	1.81E-35
YRDC	1.29	2.56E-29	3.40E-27
ZC3H8	1.14	3.28E-10	5.89E-09
ZCCHC4	1.24	2.89E-18	1.35E-16
ZFAND3	1.19	4.10E-35	8.44E-33
ZNF100	1.09	2.59E-06	2.44E-05
ZNF107	2.10	3.74E-20	2.18E-18
ZNF138	1.31	1.18E-09	1.95E-08
ZNF266	1.60	2.31E-30	3.32E-28
ZNF268	1.78	4.56E-35	9.22E-33
ZNF271	1.04	4.79E-19	2.44E-17
ZNF347	1.26	1.65E-24	1.44E-22
ZNF35	1.16	5.85E-11	1.18E-09
ZNF426	1.70	1.01E-23	8.14E-22
ZNF43	1.67	3.08E-24	2.63E-22
ZNF431	1.35	8.67E-15	2.88E-13
ZNF433	1.00	7.33E-06	6.40E-05
ZNF440	1.12	1.19E-10	2.27E-09
ZNF441	1.23	5.33E-11	1.08E-09
ZNF473	1.43	6.23E-32	1.03E-29
ZNF502	0.97	2.99E-06	2.80E-05
ZNF530	1.56	3.24E-17	1.33E-15
ZNF559	2.01	1.68E-18	8.13E-17
ZNF569	1.31	4.66E-15	1.59E-13
ZNF587B	1.00	4.96E-09	7.45E-08
ZNF625	0.96	1.04E-06	1.06E-05
ZNF680	1.27	9.78E-13	2.50E-11
ZNF699	1.40	9.13E-17	3.62E-15
ZNF700	1.14	3.71E-08	4.85E-07
ZNF714	1.63	1.87E-28	2.29E-26
ZNF724P	1.37	5.57E-09	8.28E-08
ZNF736	1.62	2.46E-10	4.50E-09
ZNF788	1.31	2.99E-28	3.60E-26
ZNF844	1.57	1.25E-15	4.55E-14
ZNF85	1.66	1.30E-14	4.26E-13
ZNF850	0.98	5.68E-12	1.30E-10
ZNF92	1.23	4.55E-10	8.01E-09
ZNF93	1.23	6.88E-12	1.56E-10
ZYG11A	1.20	3.27E-08	4.32E-07

Table 2. BCL11A-dependent AS exons with MBNL1 binding sites

AS exons	AS exon with reproducible MBNL1 binding sites
ABI1	ABI1
ACOX1	ACOX1
ADD3	ADD3
AKAP11	AKAP11
ARHGEF1	ARHGEF1
ATP2C1	ATP2C1
ATP5SL	C12orf23
BIRC6	C16orf13
C12orf23	C6orf52
C16orf13	CELF1
C6orf52	CLDND1
CC2D2A	CLPB
CELF1	CSDA
CLDND1	CSNK1D
CLPB	CTNND1
CRYZ	DNM1L
CSDA	DYNC1I2
CSNK1D	ENTPD6
CTNND1	ESYT2
DCLRE1C	EXOC1
DGUOK	EXOC2
DNM1L	FAM126A
DYNC1I2	FGFR1
ENTPD6	FLNB
ESYT2	FN1
EXOC1	FNIP1
EXOC2	HMGA1
FAM126A	HNRNPF
FGFR1	HSF2
FLNB	INF2
FN1	ISOC2
FNIP1	ITGA6
FYN	ITGB1BP1
HMGA1	KIAA1109
HNRNPF	KIF13A
HSF2	KIF13A
INF2	KLHL5
ISOC2	KPNA6
ITGA6	KTN1
ITGB1BP1	LIMCH1
KIAA1109	LOC92249
KIF13A	LRRFIP2
KIF13A	MAG1
KLHL5	MARK3
KPNA6	MBNL1
KTN1	MBNL2
LIMCH1	MDM4
LOC92249	MFF
LRRFIP2	MLLT4
MAG1	MRPL48
MARK3	MRPS10
MBNL1	MTA1

MBNL2	MTERFD2
MDM4	MYOF
MFF	NAB1
MITD1	NEDD4L
MLLT4	NIN
MRPL48	NVL
MRPS10	OSBPL3
MTA1	PHACTR2
MTERFD2	PLEC
MYOF	PLSCR3
NAB1	PPFIA1
NEDD4L	PPIL3
NIN	PRKAA1
NVL	PRKAR1A
OSBPL3	PVR
PHACTR2	RBPJ
PLD1	REPS1
PLEC	RNH1
PLSCR3	SAC3D1
PPFIA1	SDR42E1
PPIL3	SEC31A
PRKAA1	SENP7
PRKAR1A	SEPT6
PVR	SH3D21
RBPJ	SLC38A2
RECQL	SLMAP
REPS1	SNX14
RFESD	STX3
RNH1	TPP2
SAC3D1	TRERF1
SAT2	TUFT1
SDR42E1	UGP2
SEC31A	VPS29
SENP7	WNK1
SEPT6	ZDHHC3
SH3D21	ZDHHC7
SLC37A2	ZMYM5
SLC38A2	ZNF271
SLMAP	ZNF673
SNX14	ZNF687
STX3	
TPP2	
TRERF1	
TTC3	
TUFT1	
U2SURP	
UGP2	
VPS29	
WNK1	
ZDHHC3	
ZDHHC7	
ZMYM5	
ZNF271	
ZNF673	
ZNF687	