SI Materials and Methods Xu *et al*.

Cell culture

A172, T98G, human embryonic kidney cell 293T (HEK293T), MDA-MB-231, T-47D, U87-MG (U87), U138-MG (U138), U251-MG (U251), and U343-MG (U343) cell lines were cultured in Dulbecco's Modified Eagle Medium (DMEM, Biowest, L0104-500). SKBR3 cells were cultured in DMEM supplemented with glutamine. OCI-LY3, SU-DHL-4 and DBTRG-05MG (DBTRG) cell lines were maintained in Roswell Park Memorial Institute medium 1640 (RPMI-1640, Biowest, L0495-500). GBM primary explant cell lines DA66, JM94, SN172, and YK163 (29) were maintained in DMEM/F-12, GlutaMAX™ medium (Gibco, 10565-042). All culture media were supplemented with 10% fetal bovine serum (FBS, Biowest, S1810-500) and 1% penicillin-streptomycin (Gibco, 15140-122), and cells were kept in 5% CO_2 in a humidified incubator at 37℃. For all established GBM cell lines, cells were maintained within 15 passages after cell ID authenticated by short tandem repeat analysis with the Geneprint 10 System Kit (Promega, B9510) in July 2014.

Cell viability (MTT) assay

Two thousand of GBM cells were seeded into 96-well plates at day 0 and cultured for indicated time course. For drug studies, the original medium was replaced with either fresh complete medium or medium containing indicated drugs at day 1. For shRNA library screening, U87 cells stably expressing indicated shRNAs were seeded at day 0, and assayed at day 1 and day 5. To measure cell proliferation, 10 μL of MTT (3-(4,5-Dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide, Sigma Aldrich) was added into each well and

incubated for 3 hours followed by removal of medium and addition of 100 μL of MTT STOP solution (2% acetic acid, 16% SDS, 42% dimethylformamide). The plate was read with the absorbance at 570 nm. Data represent mean ± SD.

Long-term cell proliferation assay

Cells were transfected with indicated siRNAs and seeded into 6-well plates at 2,000 cells/well 24-hour post-transfection. After gamma-radiation treatment, cells were kept in incubator for 10 days. Cells were then stained with crystal violet which was subsequently extracted by MTT STOP solution and measured at OD 540 nm.

BrdU incorporation assay

BrdU Cell Proliferation Assay Kit (BioVision Inc.) was used according to the manufacturer's instruction. Briefly, indicated cells were seeded into 96-well plate at 5,000 cells/well. Next day, BrdU solution was added into each assay well and incubated at 37℃ for 3 hours. BrdU incorporated by proliferating cells was detected by an enzyme-linked immunosorbent assay.

Caspase-Glo 3/7 assay

To monitor the cellular Caspase 3/7 activity, Caspase-Glo 3/7 Assay (Promega) was applied according to the manufacturer's instruction. Cells were seeded into a white-walled 96-well plate at 5,000-10,000 cells/well. Luminescence of each sample was detected by luminometer. Culture medium without cells was determined as background.

Cell cycle analysis

Cells were trypsinized, wash and fixed in 70% ethanol at 4℃. After fixation, cells were washed twice with cold PBS and resuspended in propidium iodide (PI) solution containing RNase. Samples were then incubated at 37℃ for 30 min prior to measurement by LSR II Flow Cytometer System (BD Biosciences). Cell cycle distribution was analyzed by FlowJo.

Senescence-associated β-galactosidase (SA-β-Gal) activity assay

Cellular senescence was measured by the senescence-associated β-galactosidase (SA-β-Gal) activity assay (BioVision Inc.) following the manufacturer's instruction. Cells were photographed (200X total magnification) using an Eclipse TE2000 inverted microscope (Nikon). The percentage of SA-β-gal positive cells/field was counted in 3-5 fields/well.

Soft agar colony formation assay

Soft agar colony formation assay was performed to evaluate the anchorage-independent growth of GBM cells. Basal layer solution (0.4% agarose in DMEM with 10% FBS) was added into 12-well plate and solidified before use. Appropriate number of cells were mixed with 500 μL of top layer solution (0.4% low melting agarose in DMEM with 10% FBS) and spread over the basal layer. After solidified in 4℃, 1 mL of feeder medium was added into each well. The plates were kept in 37℃ in a 5% CO_2 incubator before analysis. Colonies were stained using 0.01% crystal violet in 4% paraformaldehyde/PBS, and then photographed under a dissection microscope.

siRNA transfection

All SMART-pool siRNAs were purchased from Dharmacon (SI Appendix Table S4). siRNAs were transfected using RNAiMAX (Life Technologies,

13778-150) according to the manufacturer's instructions. Briefly, siRNAs and RNAiMAX were diluted individually with OPTI-MEM medium for 5 min, and mixed together for 20 min before adding into cells. Culture media were refreshed 6 hours after transfection.

Plasmids and reagents

 pBABE-puro vector based GFP, GFP-BCL6, GFP-BCL6-ZF, Flag-BCL6 and Flag-BCL6$^{N21K\ H116A}$ were generated by standard molecular cloning protocol. pLXSN-Empty, pLXSN-AXL and pLXSN-AXL-DN (dominant-negative AXL) were kindly provided by Dr Axel Ullrich (38) at Max Planck Institute for Biochemistry, Germany. shRNAs targeting ZBTB family genes, AKT1, MYC and AXL were constructed based on pLKO.1 lentiviral vector, and all of the inserted sequences were listed in the Supplemental Table 1. The inducible BCL6 shRNA vectors were generated based on a Tet-pLKO-puro vector (Addgene plasmid # 21915) (36), by using the same insert sequences from the pLKO.1 vectors. sgRNAs targeting BCL6 (SI Appendix Table S5) were introduced into pLenti-CRISPR v2 vector (Addgene plasmid # 52961) (30). pCAG-pBase, pCAG-TagBFP2-HA-nls PB, and pCAG-TagBFP2-V5-nls were reported previously (31). miR-E "Multi-sensor" was constructed by inserting various shRNA target sequences into 3'UTR of EGFP in pUB-EGFP vector (32). The target sequences of pCAG-miR-E based shRNA vectors were listed in SI Appendix Table S6. To generate expression vectors for electroporation in this study, a WPRE-polyA element was introduced firstly into pUB-EGFP-KrasG12V PB vector to create pUB-EGFP-KrasG12V-WPRE PB vector; bicistronic pUB-EGFP-KrasG12V-WPRE-pCAG-shBcl6.275 PB vector was subsequently generated by PCR addition of pUB-EGFP-KrasG12V-WPRE

fragment into pCAG-miR-E Bcl6.275 PB vector. To generate pEf1a-BCL6, BCL6 coding sequence was PCR-amplified (adding a stop codon and removing the ERD) from BCL6-ERD (a generous gift of Dr Art Shaffer) and infused into *NruI* and *NheI* cut pEf1a-HA-nls-BglA PB. pEf1a-BCL6shResistant was subsequently constructed to convert the shBcl6.275 targeting sequence (gaccagttgaaatgcaacctta) to silent mutations (gaTcaAttAaaGtgTaaTctAa). Small-molecule inhibitors and other reagents were listed in SI Appendix Table S7.

Virus preparation and stable line generation

Retroviral and lentiviral particles were prepared in HEK293T. For retroviral particle preparation, pBABE or pLXSN based overexpression vector and package vector (Env and Gagpol) were co-transfected using TransIT®-LT1 Transfection Reagent (Mirus). For lentiviral particle production, shRNA/sgRNA constructs and MISSION packaging plasmid mix (Sigma) were co-transfected using Mirus. Media were replaced 6 hours after transfection and the supernatants containing viral particles were collected 48 and 72 hours after transfection and filtered (pore size 0.45 µm). To generate stable cell lines, virus-containing media were premixed with polybrene (final concentration 8 µg/mL) and allowed to infect the cells for 48 hours before puromycin or G418 selection. Single clones of isogenic JM94 cells were generated by limiting dilution and expansion.

Xenograft assay

Indicated amount of GBM cells were mixed with 100 µL of Matrigel/PBS solution (volume ration, 1:1) (BD Biosciences) and injected subcutaneously on

the upper flanks of NSG mice. Regarding in vivo drug assay, Empty Peptide (GRRRQRRKKRGGGDIMGEWGNEIFGAIAGFLG, all-D version, >95% purity) and RI-BPI (GRRRQRRKKRGGRGIEHISRGGDIMGEWGNEIFGAIAGFLG, all-D version, >95% purity) were ordered both from Cellmano Biotech Ltd, China, and Bio-Synthesis, Inc., USA. One week after tumor implantation, each peptide was freshly dissolved in PBS and administrated intraperitoneally (50 mg/kg/day for 4 days). Two weeks after treatment, mice were sacrificed and analyzed. All murine xenograft experiments were in compliance with ethical regulations of the Institutional Animal Care and Use Committee of National University of Singapore.

Electroporation and mouse glioma model

Mouse glioma models were generated by electroporation using wildtype CD-1 mice in accordance with the Institutional Animal Care and Use Committee of Cedars-Sinai Medical Center. Postnatal day 2 pups were placed on ice until unresponsive to tail pressure. Plasmid DNA mix (~4 µg) in Tris-EDTA buffer was injected into the left lateral ventricle of the brain, leaving the right ventricle unaffected as a control. Then, Tweezertrodes were used to electroporate with 5 pulses of 120 V (50 ms; separated by 950 ms) generated with the ECM 830 BTX Electroporator (Harvard Apparatus).

Pathologically, these KrasG12V models developed high-grade gliomas which had been characterized as astrocytoma, oligoastrocytoma, oligodendroglioma and glioblastoma by neuropathologist (31).

Immunohistochemistry

Freshly isolated xenograft samples were fixed with 4% paraformaldehyde in PBS overnight at 4℃. On the next day, samples were washed with ice-cold PBS twice and then dehydrated by serial ethanol immersion (50%, 70%, 80%, 90% ethanol once and 100% ethanol twice for 15 min each on ice). Samples were then incubated with ethanol: butanol (4:1, 3:2, 2:3 1:4) once and 100% butanol twice for 15 min each at room temperature. Samples were next transferred to butanol:paraffin (1:4) for 1 hour, then to 100% paraffin for 3 hours in 62℃ oven. Tissue sections (5 µm) were prepared by standard protocol. During the staining procedure, tissue sections were de-waxed by xylene (2X 10 min), 100% ethanol (1X 10 min), 100% ethanol (1X 5 min), 90% ethanol (1X 5 min), 80% ethanol (1X 5 min), 70% ethanol (1X 5 min), and Milli-Q water (3X 5 min). For antigen retrieval, sections were incubated in retrieval solution (DAKO, S1699) at 100℃ for 20 min and cooled to room temperature for 20 min. Slides were washed in PBS (3X 5 min). Endogenous peroxidase activity was blocked by 1% H_2O_2 incubation for 15 min at room temperature. Slides were washed in PBST (3X 5 min) and then incubated with blocking buffer (3% BSA in PBST) for 1 hour at room temperature. Primary antibodies against AXL (Sigma, HPA037422) and Ki67 (DAKO, MIB-1) were diluted in the blocking buffer and incubated at 4℃ overnight. Slides were washed in PBST (3X 5 min) and incubated with secondary antibody (DAKO, P026002/ P021702) for 1 hour at room temperature. Slides were washed in PBST (3X 5 min). DAB (3, 3'-Diaminobenzidine) substrate was used to detect the bound peroxidase on the slides. Counter-staining was performed with Mayer's hematoxylin solution (DAKO, S3309) and washed under tap water followed with dehydration by incubation with 70% ethanol (1X 30 sec), 80%

ethanol (1X 45 sec), 90% ethanol (1X 1 min), 100% ethanol (2X 1 min), xylene (2X 5 min). Slides were finally mounted by Eukitt quick-hardening mounting medium (Sigma).

Tissue microarrays (TMA), which were from Dr William Yong (UCLA) and US Biomax, Inc., were stained with antibody against human BCL6 (DAKO, PG-B6p) and scored independently by two pathologists. The BCL6 protein level was quantified according the criteria described below. The percentage of BCL6-positive cells was scaled as: 0% (score=0), 1-10% (score=1), 10-50% (score=2), and >50% (score=3). The intensity of BCL6 staining was classified into 4 categories: negative (score=0), weak (score=1), moderate (score=2) and strong (score=3). The percentage score and intensity score were then multiplied to provide a single value for each core on the slides. Mean value of multiple cores representing each case were calculated, and was finally graded as 0 (value=0), 1 (0<value<3), 2 (3≤value<6) or 3 (6≤value≤9), for statistical analysis.

Mouse tissue preparation and immunofluorescence

After perfusion, mouse brains were dissected and immersion fixed in 4% paraformaldehyde overnight at 4℃. On the next day, tissue was washed in PBS, embedded in 4% low melting agarose and cut on a vibratome into 70 µm free-floating sections. Tissue sections were then washed in PBS (3X 5 min) at room temperature and incubated with primary antibody (diluted in PBST and 5% normal donkey serum) overnight at 4℃. On the next day, tissue was washed in PBS (3X 5 min) at room temperature and incubated with fluorescent-conjugated secondary antibodies (Jackson Immunology) at room

temperature for 1 hour. Then, tissue sections were washed in PBS (3X 5 min) and mounted on slides.

Imaging processing and quantification

Confocal imaging was conducted on a Nikon A1R confocal microscope. The automated stitching function of Nikon Elements was used for hemi brain section images to create seamless merged images from multiple image fields. Quantification of immunostaining was done independently at 10X magnification using ImageJ software by two investigators. Percentage of Ki67$^+$ cells in TagBFP$^+$ cells was determined by calculating the number of Ki67 positive cells in 100 EGFP$^+$ TagBFP$^+$ cells at the ventral margin of each tumor (N=3 per group).

Cell lysate preparation and western blot assay

Cells were placed in lysis buffer (50 mM Tris pH 8.0, 0.3 M NaCl, 5% glycerol, 0.1% NP-40, 0.1 mM EDTA) with freshly added 1 mM DTT, 1 mM phenylmethylsulfonyl fluoride, 1X protease inhibitor cocktail (Roche, 4693116001), 1X Phosphatase inhibitor cocktail (Roche, 04906845001), 1 mM magnesium chloride and Benzonase nuclease (1:500, Novagen, 70746-3) for 20 min on ice. Bradford assay was used for protein quantification. Western blot analysis was conducted following standard protocol with indicated antibodies listed in SI Appendix Table S7.

Phospho-Human RTK Array

Phospho-Human RTK Array (R&D, ARY001B) was used according to the manufacturer's instruction. Briefly, cells lysates were prepared 72 hours post-siRNA transfection and incubated overnight with the membrane pre-spotted

with antibodies against different RTKs in cold room. The membrane was then washed and incubated with pan anti-phospho-tyrosine antibody conjugated to horseradish peroxidase (HRP) at room temperature for 1 hour before visualization using chemiluminescent detection reagents.

Chromatin immunoprecipitation (ChIP) and ChIP-qPCR

ChIP was performed by following a standard protocol. Briefly, cells were fixed with 1% formaldehyde for 10 min at room temperature and neutralized by glycine (final concentration 0.125 M). Cells were washed 3 times by cold PBS, collected by spinning down at 1,500 rpm for 5 min, and re-suspended in nuclear extraction buffer to enrich nuclei. Nuclei were subjected to SDS lysis buffer for 10 min on ice and sonicated by Bioruptor to achieve genomic fragments around 500 base pairs. After sonication, cell debris was removed by centrifugation at 13,000 rpm for 10 min, supernatant was then diluted and pre-cleared by incubation with the IgG and Dynabeads Protein A+G (Invitrogen) for 90 min in 4℃. ChIP was performed using BCL6 antibody (Cell Signaling Technology, 5650S), NCoR antibody (Bethyl Laboratories, Inc., A301-145A) and IgG control (Abcam, ab46540) and followed with increasing stringency washes with cold low salt wash buffer, high salt wash buffer, LiCl wash buffer and TE buffer. Bound DNA was eluted by the buffer containing 1% SDS and 0.1 M $NaHCO_3$, reverse-crosslinked overnight at 65℃, purified by QIAquick PCR purification kit (Qiagen, 28106) followed by ChIP-qPCR analysis. ChIP-qPCR primers were listed in SI Appendix Table S8.

RNA preparation, cDNA microarray and qRT-PCR analysis

Total RNA was prepared by using RNeasy Kit (Qiagen, 74106) according to the instruction. Microarray was performed using the HumanHT-12 v4 Expression BeadChip Kit (Illumina). After DNase treatment, total RNA was used for cDNA library construction by using RevertAid RT Reverse Transcription Kit (Life technology, K1691), and qPCR analysis was performed with Kapa SYBR fast qPCR Master Mix (KAPA Biosystems, KK4602) on a 7500 Real-time PCR System (Applied Biosystems). QRT-PCR primers were listed in SI Appendix Table S9.

Raw data exported from BeadStudio were read into R environment using beadarray Bioconductor package (34) and quantile normalized followed by log2 transformation. Differential expressed genes (DEGs) were identified using Limma Bioconductor package while correcting for differences in arrayweights (35). Resulting p-values were adjusted for false discovery rates (FDRs). Probesets with FDR no more than 0.05 were considered as DEGs and subsequently used for pathway enrichment analysis through ConsensusPathDB (http://www.consensuspathdb.org). All measured genes on microarray were used as background.

Regarding the analysis of GSE4290 and GSE4536, raw microarray data (CEL files) were downloaded from NCBI GEO and processed using affy Bioconductor package (26). Raw data were normalized based on a robust multi-array average procedure (27), filtered by mas5calls, and then used for differential expression analysis with Limma package. P-values were corrected for FDR. Heat maps were generated by scaling normalized expression of probesets across all samples using ComplexHeatmap Bioconductor package.
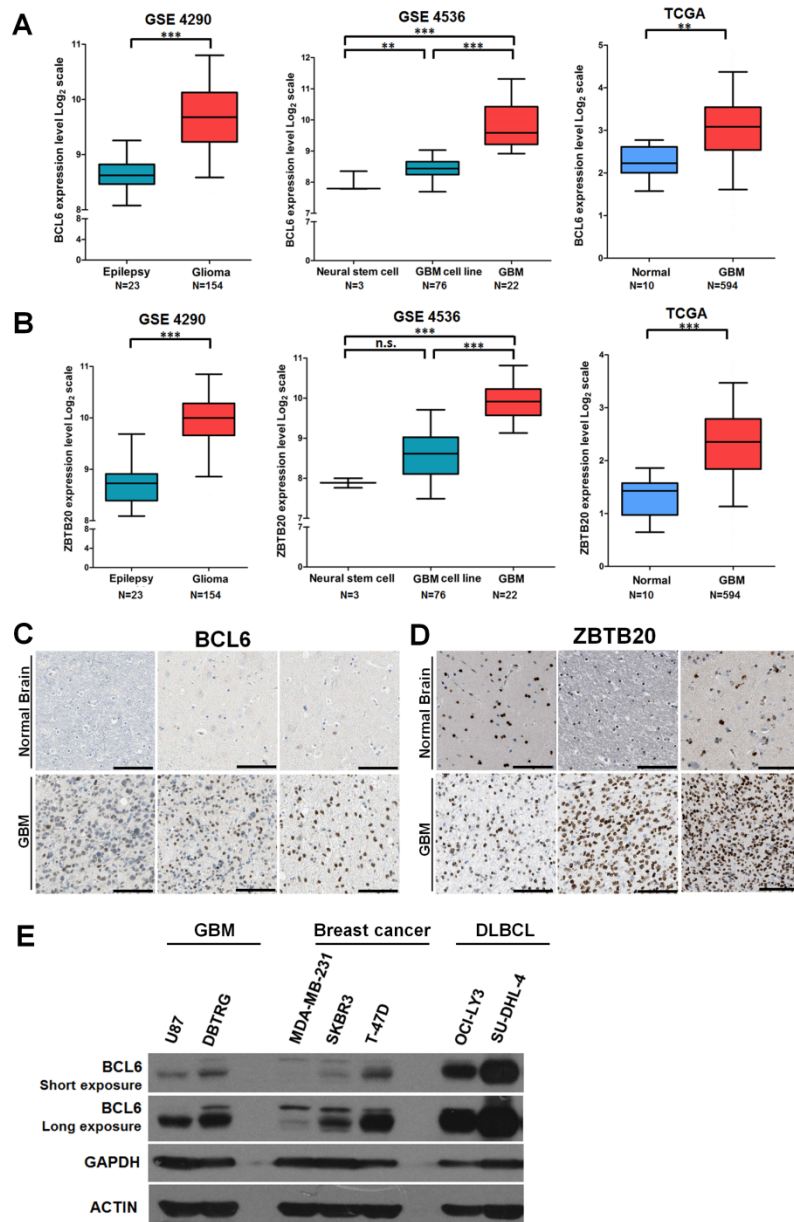
Supplementary Figure S1. Identification of BCL6 as a novel pro-growth factor in glioma.

(A-B) BCL6 and ZBTB20 mRNA expression in indicated samples based on GSE 4290, GSE 4536 and TCGA dataset. (C-D) IHC staining of BCL6 and ZBTB20 in normal brain tissues and GBM samples. BCL6 staining by antibody HPA004899 and ZBTB20 staining by antibody HPA016815 were analyzed based on human protein atlas (http://www.proteinatlas.org). Scale bars, 100 μm. (E) Western blot result

showing the endogenous BCL6 expression among indicated GBM, breast cancer and DLBCL cells.
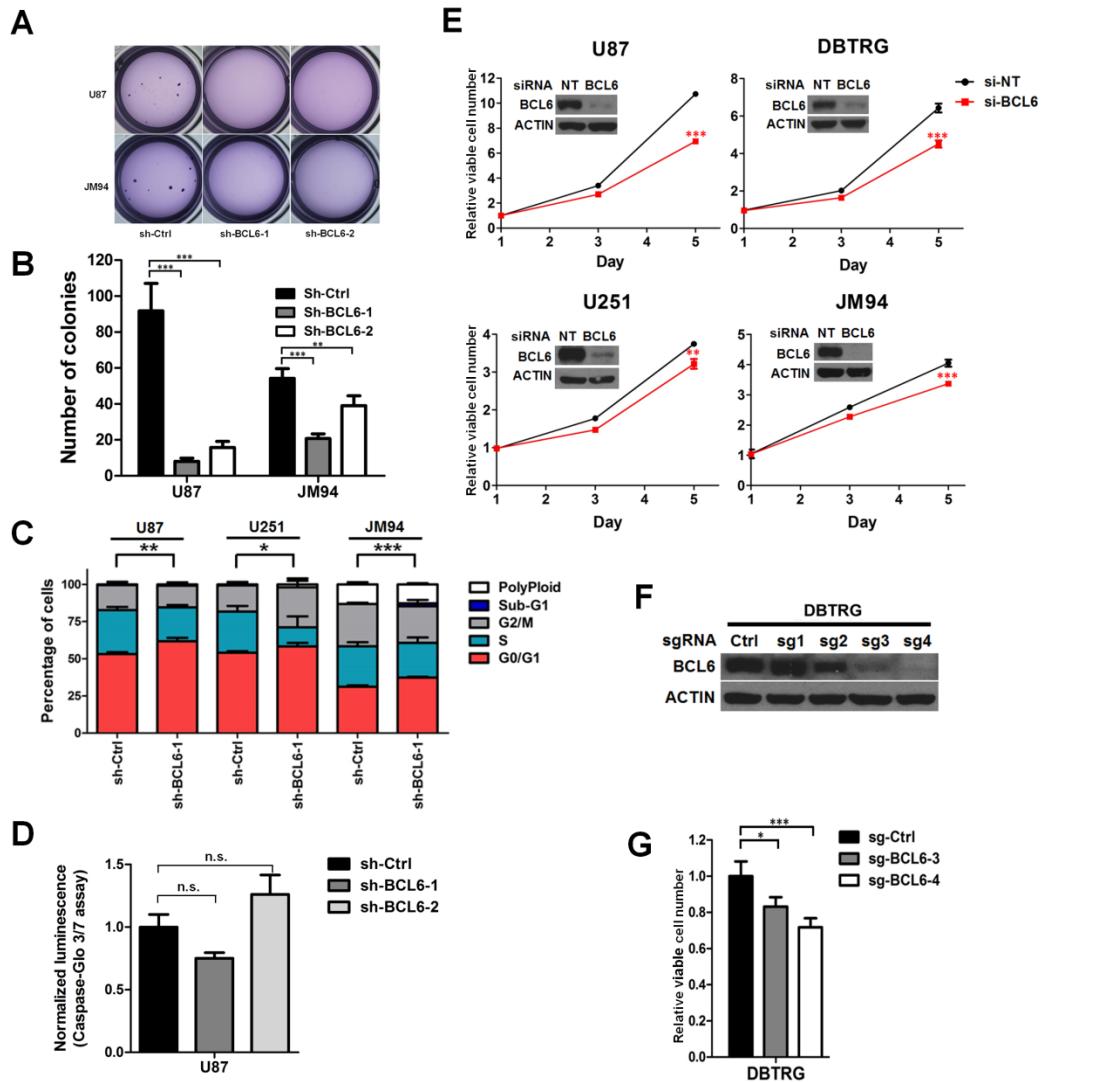
Supplementary Figure S2. BCL6 expression is a functional requisite for GBM cell growth.

(A-B) Effect of BCL6 depletion on anchorage-independent growth of GBM cells. (C) Effect of BCL6 depletion on cell cycle progression. Statistical results of G0/G1 cells were shown. (D) Effect of BCL6 depletion on Caspase3/7 activity in U87 cells. (E) Effect of BCL6 depletion by siRNA on GBM cell proliferation. Efficiency of BCL6 knockdown was confirmed by western blot. (F-G) Effects of CRISPR/Cas9-mediated BCL6 depletion on BCL6 expression (F) and cell viability (G) in DBTRG cells. Data of (A, B, D, E and G) represent mean ± SD.
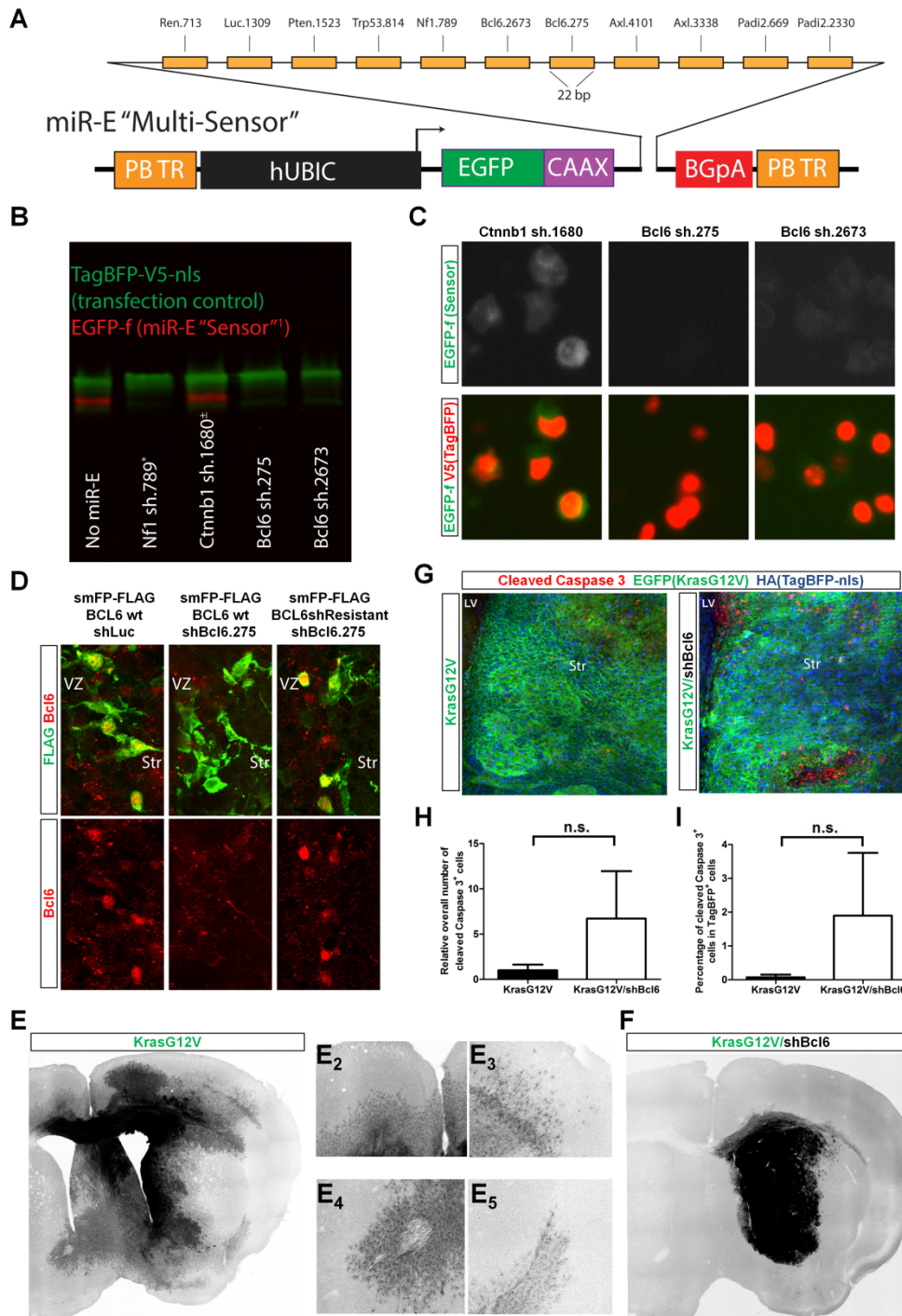
Supplementary Figure S3. Silencing of Bcl6 using miR-E technology inhibited the progression of KrasG12V-driven glioma.

(A) Schematic of Bcl6 miR-E "multi-sensor" construct designed to test various shRNAs including two candidate Bcl6 targeting sequences (shBcl6.275 and shBcl6.2673). (B) Western blot showing knockdown of EGFP sensor expression by

both shBcl6 candidates but not by shCtnnb.1680 whose targeting sequence was not in the multi-sensor construct, validating the specificity and efficacy of the shBcl6 candidates. shNf1.789 was used as positive control for this assay. (C) shBcl6.275 and shBcl6.2673 were both tested in vitro in HEK293T cells. shBcl6.275 was chosen due to most reduced EGFP expression of the sensor. (D) In vivo validation of specificity and efficacy shBcl6.275. The shBcl6.275 targeting site is 100% conserved in the human BCL6 mRNA. Indicated plasmids were co-injected with pCAG-pBase into the left lateral ventricle of the brain and electroporated. FLAG antibody was applied to mark the electroporated cells. shBcl6.275 diminished the expression of wild-type BCL6 but showed minimal effect on the expression of BCL6shResistant. VZ and Str denote ventricular zone and striatum, respectively. (E-F) Bcl6 silencing decreased glioma infiltration. EGFP signals from coronal sections from Fig. 3 C_4 and Fig. 3D_4 were converted to grayscale and inverted. (E) KrasG12V tumor showed substantial infiltration from initial site of electroporation at the left lateral ventricle to other hemisphere. (E_2-E_5) Capture of infiltration pattern of contralateral cortex (E_2) from electroporation site, of ipsilateral cortex (E_3), anterior commissure (E_4), and lateral cortex on ipsilateral side (E_5) of electroporation site. (F) KrasG12V/shBcl6 tumor showed confined margins and no infiltration to the other hemisphere. (G) Representative images and quantification results (H-I) showing the expression of cleaved Caspase 3 cells in tumors derived from KrasG12V (N=3) and KrasG12V/shBcl6 animals (N=3). LV denotes the lateral ventricle.
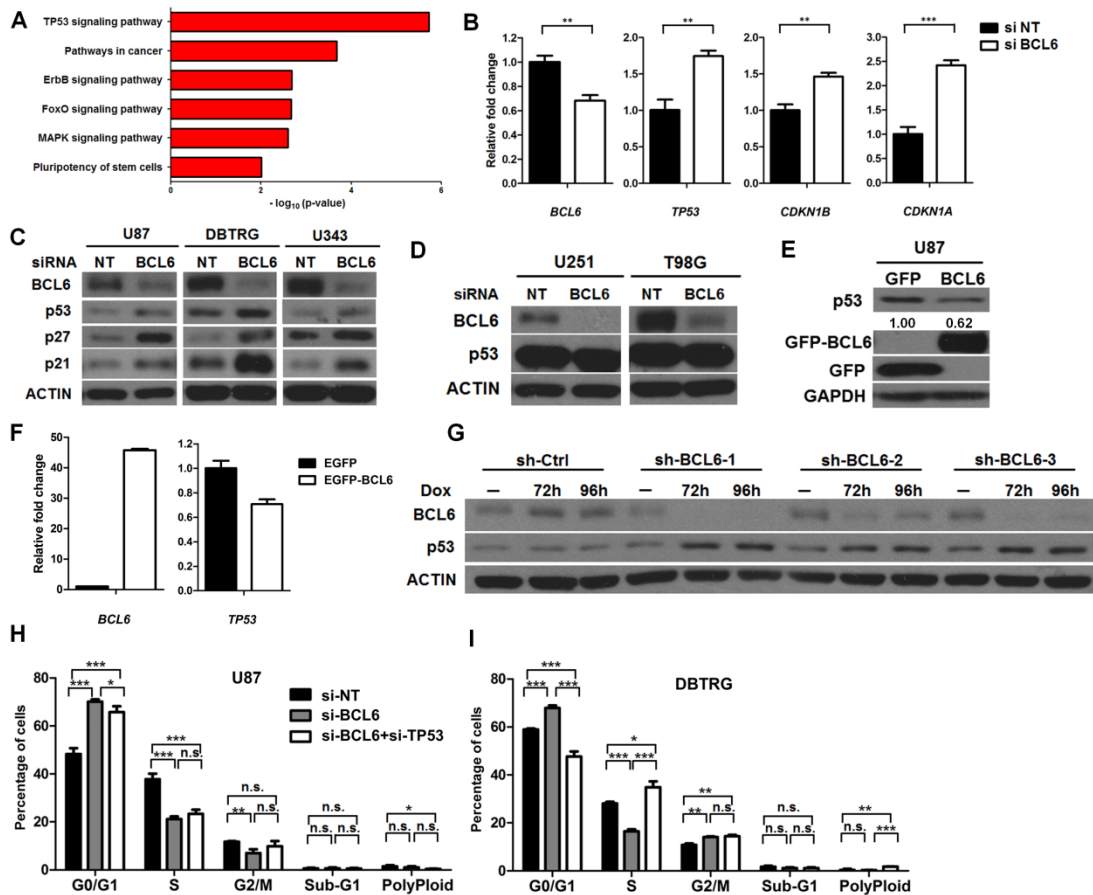
Supplementary Figure S4. BCL6 represses TP53 pathway.

(A) Pathway enrichment analysis of differentially expressed genes upon BCL6 knockdown in U87 cells. RNA samples were harvested 36 hours post-transfection. (B) Up-regulation of TP53, CDKN1B and CDKN1A mRNA expression upon BCL6 knockdown in U87 cells. RNA samples were harvested 36 hours post-transfection. (C) Effect of BCL6 depletion on p53, p27 and p21 protein expression. U87, DBTRG and U343 cells have wildtype *TP53*. (D) Effect of BCL6 depletion on p53 protein expression in U251 and T98G cells containing mutant *TP53*. (E-F) Overexpressed BCL6 repressed the protein (E) and mRNA (F) expression of p53 in U87 cells. (G) Up-regulation of p53 protein after doxycycline (Dox)-induced BCL6 knockdown. U87 cells expressing indicated tet-on shRNAs were treated with either DMSO or 100 ng/mL Dox for indicated duration. (H-I) Effects of BCL6 depletion or BCL6/TP53 co-depletion on cell cycle progression in U87 (H) and DBTRG (I) cells.
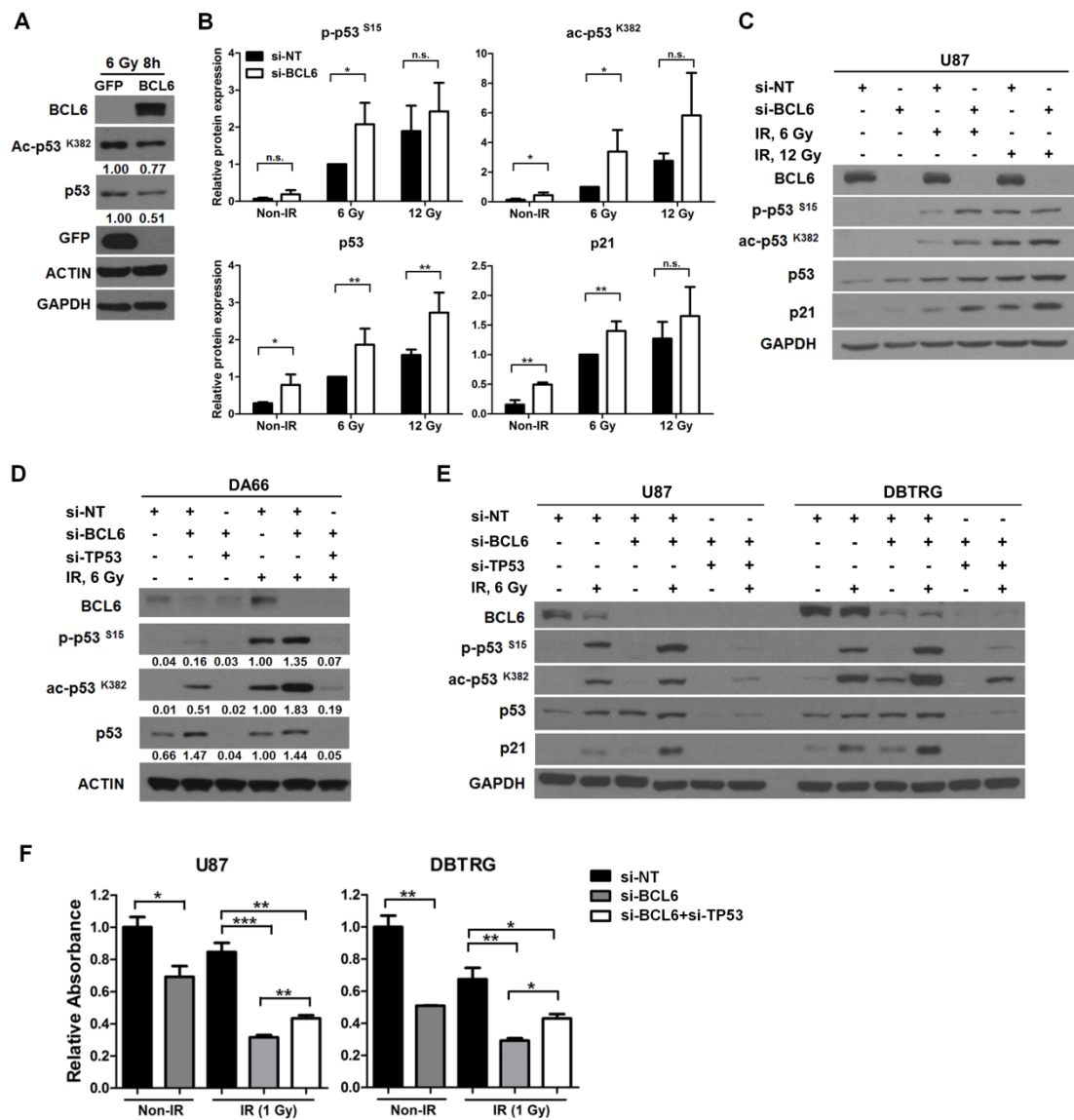
Supplementary Figure S5. Effect of BCL6 expression on p53 in response to radiation.

(A) Overexpressed BCL6 decreased p53 protein level in U87 cells in response to radiation. (B) Effect of BCL6 depletion on the expression of p53, p-p53^{S15}, ac-p53^{K382} and p21 in U87 cells 8-hour post ionizing radiation (IR). The relative amount of each protein was quantified by ImageJ using GAPDH as an internal control, and normalized further to its level in si-NT (Non-targeting) cells treated with 6-Gy IR. Data represent the means ± SD based on three independent replicates. (C) Representative western blot results related to (B). (D) Effect of BCL6 depletion or

BCL6/TP53 co-depletion on p53 in response to radiation in a primary GBM explant line DA66 (harboring wildtype *TP53*). (E-F) Effect of BCL6 depletion or BCL6/TP53 co-depletion on protein expression (E) and long-term cell proliferation (F) in response to IR. (E) Protein samples were harvested 4-hour post-IR.
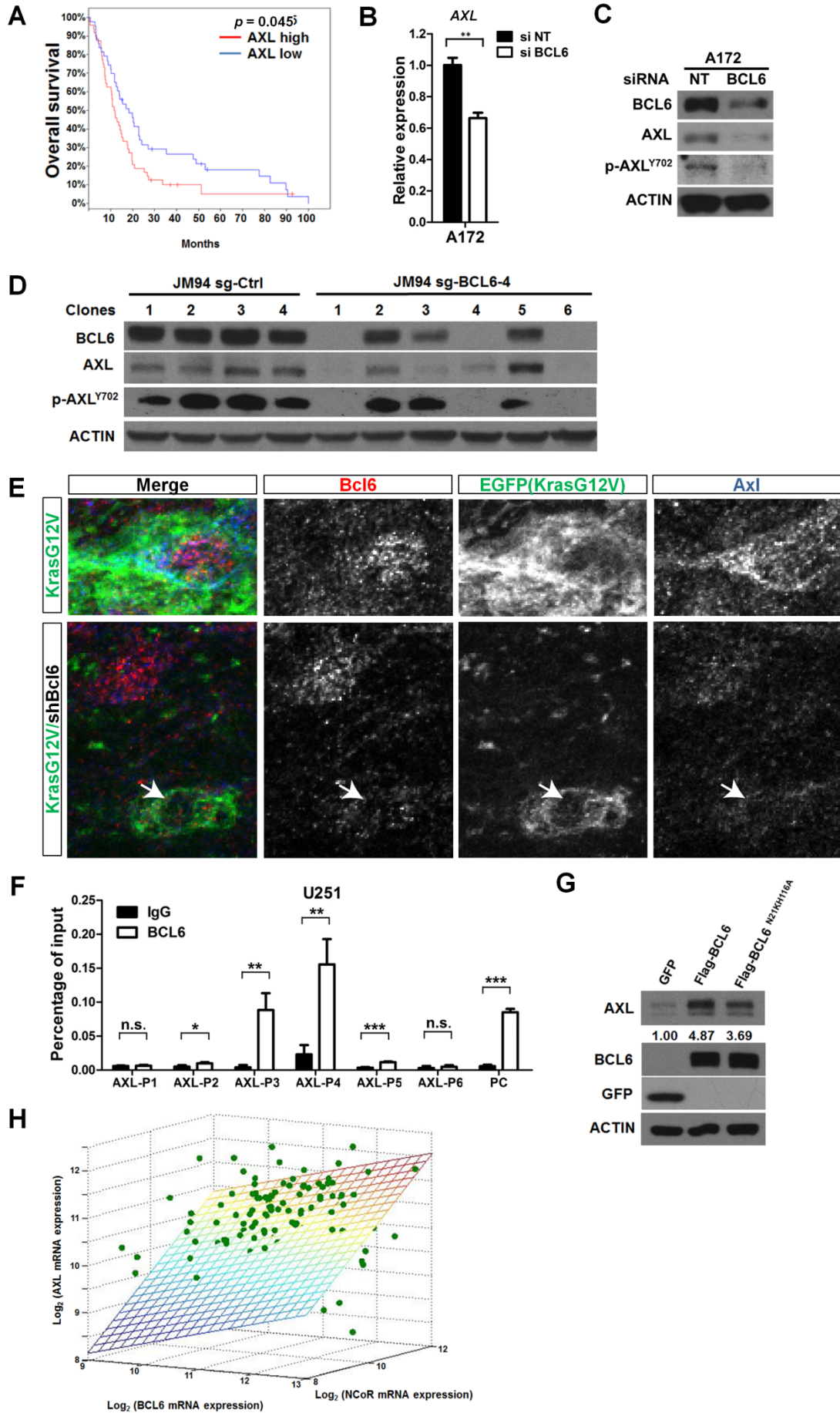
Supplementary Figure S6. AXL is a novel target of BCL6 in GBM.

(A) Association of AXL expression with overall survival of GBM patients. Kaplan-Meier survival curves were generated based on TCGA GBM cohort. GBM patients (TCGA, Glioblastoma, Nature 2008, N=91) were divided into AXL high (mRNA expression Z-score > mean + 0.08SD) and AXL low (mRNA expression Z-score ≤ mean + 0.08SD) groups. (B-C) QRT-PCR (B) and western blot (C) results showing the down-regulation of AXL after BCL6 depletion in A172 cells. (D) Protein expression of p-AXL^{Y702}, AXL and BCL6 in single clones derived from JM94 cells stably expressing either sg-Ctrl or sg-BCL6-4. (E) Immunofluorescence staining showing the correlated expression between Bcl6 and Axl in EGFP^{+} tumor cells (indicated by arrows) at the margin of in KrasG12V and KrasG12V/shBcl6 tumors, corresponding to the representative cells marked by white boxes in Fig. 4D. (F) ChIP-qPCR results showing the enrichment of BCL6 binding in *AXL* locus in U251 cells. The 5'UTR region of *BCL6* was applied as a positive control (PC). (G) Effect of either ectopic Flag-BCL6 or Flag-BCL6$^{N21K\ H116A}$ on AXL expression in U87 cells. (H) Positive correlation between BCL6&NCoR co-expression and AXL expression in GBM patients (TCGA, RNA-seq dataset, N=156). The plane represents the linear regression of BCL6 and NCoR1 (Pearson's correlation, R = 0.17, *p* = 0.037).
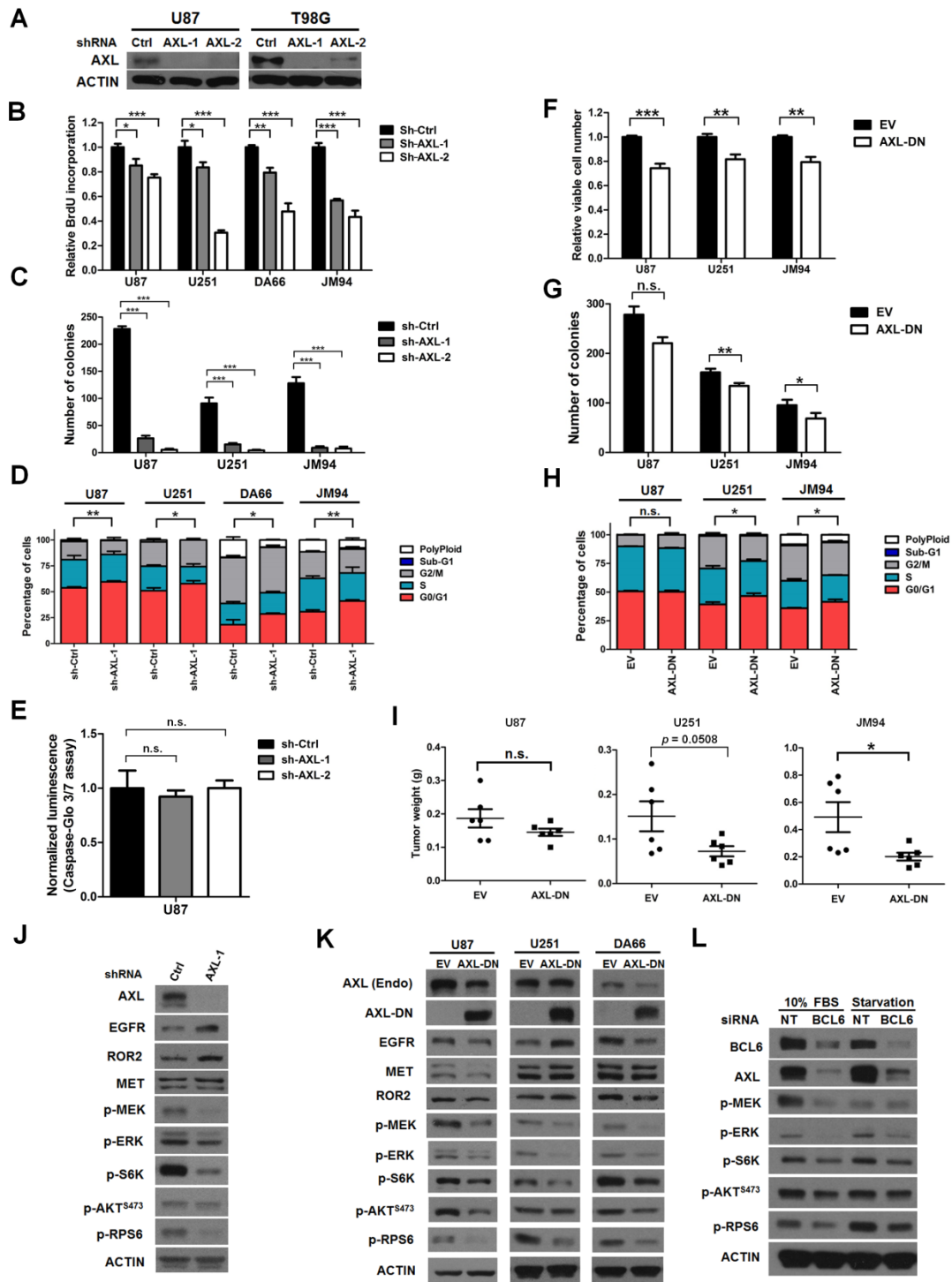
Supplementary Figure S7. AXL enhances malignant characteristics of GBM.

(A) Representative western blot results showing the efficiency of AXL knockdown in GBM cells. (B-D) Effect of AXL knockdown on BrdU incorporation (B), anchorage-independent growth (C) and cell cycle progression (D) of GBM cells. Statistical results of G0/G1 cells were shown. (E) Effect of AXL depletion on Caspase3/7

activity in U87 cells. (F-I) Effect of dominant negative inhibition of AXL (AXL-DN) on GBM cell viability (F), anchorage-independent growth (G), cell cycle progression (H) and xenograft growth (I). EV, empty vector control. Statistical results of G0/G1 cells were shown in (G). U87 cells (2 X 10^6 cells per injection), U251 cells (1.5 X 10^6) and JM94 cells (1 X 10^6) stably expressing AXL-DN or EV control were subcutaneously injected into NSG mice. Tumors were harvested and weighted. Data of (B-I) represent mean ± SD. (J) Effect of AXL knockdown on downstream targets. U87 cells stably expressing either sh-Ctrl or sh-AXL-1 were serum starved for 48 hours before harvest. (K) Effect of AXL-DN on the expression of endogenous (endo) AXL, EGFR, MET, ROR2 and their downstream targets under serum starvation (48 hours) condition. (L) Effect of BCL6 knockdown on the expression of AXL and AXL downstream targets in DA66 (primary explant) cells under indicated culture conditions.
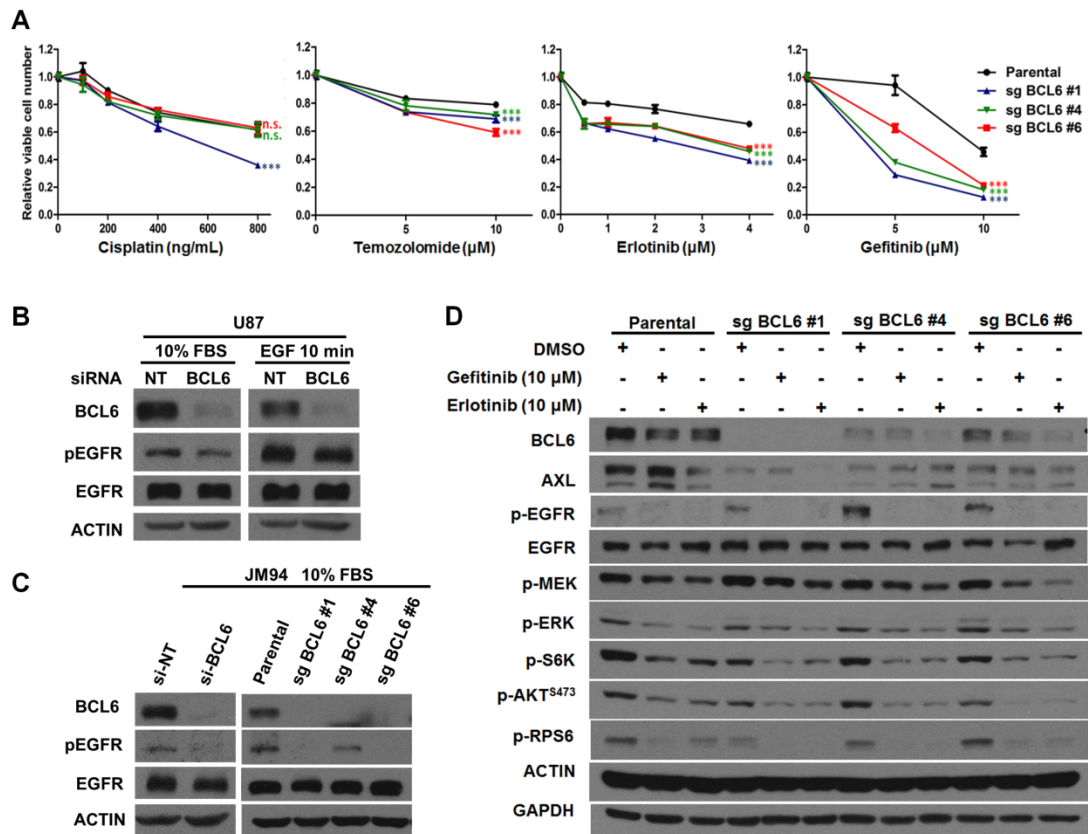
Supplementary Figure S8. Additive effect between BCL6 silencing and EGFR inhibitors.

(A) BCL6 depletion sensitizes JM94 cells to EGFR inhibitors. JM94 parental cells and three isogenic clones were treated with different concentrations of Gefitinib, Erlotinib, Cisplatin and Temozolomide (72 hours) followed by MTT assay. Data represent mean ± SD. (B) Effect of BCL6 silencing on EGFR phosphorylation in U87 cells. For EGF stimulation, cells were treated with 50 ng/mL EGF for 10 min before harvest. (C) Effect of BCL6 silencing on EGFR phosphorylation in JM94 cells cultured in complete medium. (D) Parental or isogenic BCL6-silenced JM94 cells were treated with DMSO, Gefitinib or Erlotinib for 2 hours and then stimulated with 50 ng/mL EGF for 10 min before harvest.
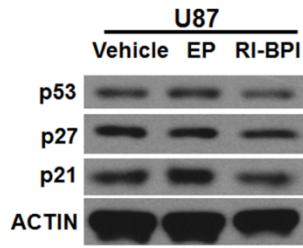
Supplementary Figure S9. Effect of RI-BPI on p53, p27 and p21 expression. U87 GBM cells were incubated with either 20 µM RI-BPI, EP or vehicle control for 24 hours before harvest.

SI Table S1

List of oligos used for shRNA cloning

Gene	Oligo Name	Oligo Sequence (5'→3')
ZBTB1	sh1-F	CCGGCGGTAAATACACCACATAATACTCGAGTATTATGTGGTGTATTTACCGTTTTTG
	sh1-R	AATTCAAAAACGGTAAATACACCACATAATACTCGAGTATTATGTGGTGTATTTACCG
	sh2-F	CCGGGCAGTCCGAAATAAGAGATATCTCGAGATATCTCTTATTTCGGACTGCTTTTTG
	sh2-R	AATTCAAAAAGCAGTCCGAAATAAGAGATATCTCGAGATATCTCTTATTTCGGACTGC
	sh3-F	CCGGGCATGTGGTAAATGTGGACAACTCGAGTTGTCCACATTTACCACATGCTTTTTG
	sh3-R	AATTCAAAAAGCATGTGGTAAATGTGGACAACTCGAGTTGTCCACATTTACCACATGC
ZBTB2	sh1-F	CCGGCCCAGGTGAATCGGACAAATACTCGAGTATTTGTCCGATTCACCTGGGTTTTTG
	sh1-R	AATTCAAAAACCCAGGTGAATCGGACAAATACTCGAGTATTTGTCCGATTCACCTGGG
	sh2-F	CCGGGGCCCAGGTGAATCGGACAAATCTCGAGATTTGTCCGATTCACCTGGGCTTTTG
	sh2-R	AATTCAAAAAGCCCAGGTGAATCGGACAAATCTCGAGATTTGTCCGATTCACCTGGGC
	sh3-F	CCGGACCTGGAATGTATCGACTTTCCTCGAGGAAAGTCGATACATTCCAGGTTTTTTG
	sh3-R	AATTCAAAAACCTGGAATGTATCGACTTTCCTCGAGGAAAGTCGATACATTCCAGGT
ZBTB3	sh1-F	CCGGTCTTACACACTACGGCGACATCTCGAGATGTCGCCGTAGTGTGTAAGATTTTTG
	sh1-R	AATTCAAAAATCTTACACACTACGGCGACATCTCGAGATGTCGCCGTAGTGTGTAAGA
	sh2-F	CCGGACATCCGCAAGGCTCACAATGCTCGAGCATTGTGAGCCTTGCGGATGTTTTTTG
	sh2-R	AATTCAAAAAACATCCGCAAGGCTCACAATGCTCGAGCATTGTGAGCCTTGCGGATGT
ZBTB4	sh1-F	CCGGCCAACTCTTCCTCCACCAATTCTCGAGAATTGGTGGAGGAAGAGTTGGTTTTTG
	sh1-R	AATTCAAAAACCAACTCTTCCTCCACCAATTCTCGAGAATTGGTGGAGGAAGAGTTGG
	sh2-F	CCGGTCTCCTGGGAAGGGATCTTTCCTCGAGGAAAGATCCCTTCCCAGGAGATTTTTG
	sh2-R	AATTCAAAAATCTCCTGGGAAGGGATCTTTCCTCGAGGAAAGATCCCTTCCCAGGAGA
	sh3-F	CCGGGGAGACCTTTGTCACTTACTATCTCGAGATAGTAAGTGACAAAGGTCTCTTTTTG
	sh3-R	AATTCAAAAAGAGACCTTTGTCACTTACTATCTCGAGATAGTAAGTGACAAAGGTCTC
ZBTB5	sh1-F	CCGGGGCCAGTTGTCAGACTGAATTTCTCGAGAAATTCAGTCTGACAACTGGCTTTTTG
	sh1-R	AATTCAAAAAGCCAGTTGTCAGACTGAATTTCTCGAGAAATTCAGTCTGACAACTGGC
	sh2-F	CCGGACCTTCTGATGGGAGTATTATCTCGAGATAATACTCCCATCAGAAGGTTTTTTG
	sh2-R	AATTCAAAAAACCTTCTGATGGGAGTATTATCTCGAGATAATACTCCCATCAGAAGGT
	sh3-F	CCGGCCATAGATGAGTCTGCCATTTCTCGAGAAATGGCAGACTCATCTATGGTTTTTG
	sh3-R	AATTCAAAAACCATAGATGAGTCTGCCATTTCTCGAGAAATGGCAGACTCATCTATGG
ZBTB6	sh1-F	CCGGCCACTGTTGTGATATGGATTTCTCGAGAAATCCATATCACAACAGTGGTTTTTG
	sh1-R	AATTCAAAAACCACTGTTGTGATATGGATTTCTCGAGAAATCCATATCACAACAGTGG
	sh2-F	CCGGCCGACTTCATAACCCAATGTTCTCGAGAACATTGGGTTATGAAGTCGGTTTTTG
	sh2-R	AATTCAAAAACCGACTTCATAACCCAATGTTCTCGAGAACATTGGGTTATGAAGTCGG
	sh3-F	CCGGATAGTGTTCCTCTCTTATATACTCGAGTATATAAGAGAGGAACACTATTTTTTG
	sh3-R	AATTCAAAAAATAGTGTTCCTCTCTTATATACTCGAGTATATAAGAGAGGAACACTAT
ZBTB7A	sh1-F	CCGGGAACGTGTACGAGATCGACTTCTCGAGAAGTCGATCTCGTACACGTTCTTTTTG
	sh1-R	AATTCAAAAAGAACGTGTACGAGATCGACTTCTCGAGAAGTCGATCTCGTACACGTTC
	sh2-F	CCGGGCCACTGAGACACAAACCTATCTCGAGATAGGTTTGTGTCTCAGTGGCTTTTTG
	sh2-R	AATTCAAAAAGCCACTGAGACACAAACCTATCTCGAGATAGGTTTGTGTCTCAGTGGC
	sh3-F	CCGGCCACTGAGACACAAACCTATTCTCGAGAATAGGTTTGTGTCTCAGTGGTTTTTG
	sh3-R	AATTCAAAAACCACTGAGACACAAACCTATTCTCGAGAATAGGTTTGTGTCTCAGTGG
ZBTB7B	sh1-F	CCGGCCCTCCTTGAATTTGCCTATACTCGAGTATAGGCAAATTCAAGGAGGGTTTTTG
	sh1-R	AATTCAAAAACCCTCCTTGAATTTGCCTATACTCGAGTATAGGCAAATTCAAGGAGGG
	sh2-F	CCGGGAGTAGAAGCAATAATGTATTCTCGAGAATACATTATTGCTTCTACTCTTTTTG
	sh2-R	AATTCAAAAAGAGTAGAAGCAATAATGTATTCTCGAGAATACATTATTGCTTCTACTC
	sh3-F	CCGGGAAGAAGAGGAGCTGGTATATCTCGAGATATACCAGCTCCTCTTCTTCTTTTTG
	sh3-R	AATTCAAAAAGAAGAAGAGGAGCTGGTATATCTCGAGATATACCAGCTCCTCTTCTTC
ZBTB7C	sh1-F	CCGGTATCACATCCAGCTCTATATTCTCGAGAATATAGAGCTGGATGTGATATTTTTG
	sh1-R	AATTCAAAAATATCACATCCAGCTCTATATTCTCGAGAATATAGAGCTGGATGTGATA
	sh2-F	CCGGAGAACGACTACGGTGCCTATCCTCGAGGATAGGCACCGTAGTCGTTCTTTTTTG
	sh2-R	AATTCAAAAAGAACGACTACGGTGCCTATCCTCGAGGATAGGCACCGTAGTCGTTCT
ZBTB8A	sh1-F	CCGGCCAAGGAAAGAGTCCATTAAACTCGAGTTTAATGGACTCTTTCCTTGGTTTTTG
	sh1-R	AATTCAAAAACCAAGGAAAGAGTCCATTAAACTCGAGTTTAATGGACTCTTTCCTTGG
	sh2-F	CCGGGCCAAGCATGAACCAAGGAAACTCGAGTTTCCTTGGTTCATGCTTGGCTTTTTG
	sh2-R	AATTCAAAAAGCCAAGCATGAACCAAGGAAACTCGAGTTTCCTTGGTTCATGCTTGGC
ZBTB8B	sh1-F	CCGGTTAGGTCATCCCTCGACATTTCTCGAGAAATGTCGAGGGATGACCTAATTTTTG
	sh1-R	AATTCAAAAATTAGGTCATCCCTCGACATTTCTCGAGAAATGTCGAGGGATGACCTAA
	sh2-F	CCGGGAGACACTTACGTAGCAATAACTCGAGTTATTGCTACGTAAGTGTCTCTTTTTG
	sh2-R	AATTCAAAAAGAGACACTTACGTAGCAATAACTCGAGTTATTGCTACGTAAGTGTCTC
ZBTB9	sh1-F	CCGGCGGGAACTTAGGGCTCATAAACTCGAGTTTATGAGCCCTAAGTTCCCGTTTTTG
	sh1-R	AATTCAAAAACGGGAACTTAGGGCTCATAAACTCGAGTTTATGAGCCCTAAGTTCCCG
	sh2-F	CCGGGCCAAGAGAATAGATACATTACTCGAGTAATGTATCTATTCTCTTGGCTTTTTG
	sh2-R	AATTCAAAAAGCCAAGAGAATAGATACATTACTCGAGTAATGTATCTATTCTCTTGGC
ZBTB10	sh1-F	CCGGGATAGGAATGTGAATGCAAATCTCGAGATTTGCATTCACATTCCTATCTTTTTG
	sh1-R	AATTCAAAAAGATAGGAATGTGAATGCAAATCTCGAGATTTGCATTCACATTCCTATC
	sh2-F	CCGGGCCGTTTCTTTAAGACTTTATCTCGAGATAAAGTCTTAAAGAAACGGCTTTTTG
	sh2-R	AATTCAAAAAGCCGTTTCTTTAAGACTTTATCTCGAGATAAAGTCTTAAAGAAACGGC
	sh3-F	CCGGCAACACGGAATCTTACCAATTCTCGAGAATTGGTAAGATTCCGTGTTGTTTTTG

	sh3-R	AATTCAAAAACAACACGGAATCTTACCAATTCTCGAGAATTGGTAAGATTCCGTGTTG
ZBTB11	sh1-F	CCGGTGTCAGCAAATAGCGAGTATTCTCGAGAATACTCGCTATTTGCTGACATTTTTG
	sh1-R	AATTCAAAAATGTCAGCAAATAGCGAGTATTCTCGAGAATACTCGCTATTTGCTGACA
	sh2-F	CCGGGCCCTGATGATGATACTTATACTCGAGTATAAGTATCATCATCAGGGCTTTTTG
	sh2-R	AATTCAAAAAGCCCTGATGATGATACTTATACTCGAGTATAAGTATCATCATCAGGGC
	sh3-F	CCGGTAGATCGATCCCGTCCAATATCTCGAGATATTGGACGGGATCGATCTATTTTTG
	sh3-R	AATTCAAAAATAGATCGATCCCGTCCAATATCTCGAGATATTGGACGGGATCGATCTA
ZBTB12	sh1-F	CCGGGTCTGACATCTGCATCGTCAACTCGAGTTGACGATGCAGATGTCAGACTTTTTG
	sh1-R	AATTCAAAAAGTCTGACATCTGCATCGTCAACTCGAGTTGACGATGCAGATGTCAGAC
	sh2-F	CCGGTCTGACATCTGCATCGTCAAACTCGAGTTTGACGATGCAGATGTCAGATTTTTG
	sh2-R	AATTCAAAAATCTGACATCTGCATCGTCAAACTCGAGTTTGACGATGCAGATGTCAGA
	sh3-F	CCGGGATGATTCCTTGGAGAGACTTCTCGAGAAGTCTCTCCAAGGAATCATCTTTTTG
	sh3-R	AATTCAAAAAGATGATTCCTTGGAGAGACTTCTCGAGAAGTCTCTCCAAGGAATCATC
ZBTB14	sh1-F	CCGGCCCAAGATTTCCTAGATTAAACTCGAGTTTAATCTAGGAAATCTTGGGTTTTTG
	sh1-R	AATTCAAAAACCCAAGATTTCCTAGATTAAACTCGAGTTTAATCTAGGAAATCTTGGG
	sh2-F	CCGGCAGATTCTTGGTATCCGATTTCTCGAGAAATCGGATACCAAGAATCTGTTTTTG
	sh2-R	AATTCAAAAACAGATTCTTGGTATCCGATTTCTCGAGAAATCGGATACCAAGAATCTG
	sh3-F	CCGGCTTCGGTCATAGAAATAGATTCTCGAGAATCTATTTCTATGACCGAAGTTTTTG
	sh3-R	AATTCAAAAACTTCGGTCATAGAAATAGATTCTCGAGAATCTATTTCTATGACCGAAG
ZBTB16	sh1-F	CCGGCCACCGCAATAGTCAACACTACTCGAGTAGTGTTGACTATTGCGGTGGTTTTTG
	sh1-R	AATTCAAAAACCACCGCAATAGTCAACACTACTCGAGTAGTGTTGACTATTGCGGTGG
	sh2-F	CCGGGAATGCACTTACTGGCTCATTCTCGAGAATGAGCCAGTAAGTGCATTCTTTTTG
	sh2-R	AATTCAAAAAGAATGCACTTACTGGCTCATTCTCGAGAATGAGCCAGTAAGTGCATTC
	sh3-F	CCGGCCACAAGGCTGACGCTGTATTCTCGAGAATACAGCGTCAGCCTTGTGGTTTTTG
	sh3-R	AATTCAAAAACCACAAGGCTGACGCTGTATTCTCGAGAATACAGCGTCAGCCTTGTGG
ZBTB17	sh1-F	CCGGCCTGTCCAAGCACATCATCATCTCGAGATGATGATGTGCTTGGACAGGTTTTTG
	sh1-R	AATTCAAAAACCTGTCCAAGCACATCATCATCTCGAGATGATGATGTGCTTGGACAGG
	sh2-F	CCGGTGTCCAAGCACATCATCATTCCTCGAGGAATGATGATGTGCTTGGACATTTTTG
	sh2-R	AATTCAAAAATGTCCAAGCACATCATCATTCCTCGAGGAATGATGATGTGCTTGGACA
	sh3-F	CCGGGCGGACTTCTATCAGCAGTATCTCGAGATACTGCTGATAGAAGTCCGCTTTTTG
	sh3-R	AATTCAAAAAGCGGACTTCTATCAGCAGTATCTCGAGATACTGCTGATAGAAGTCCGC
ZBTB18	sh1-F	CCGGCACTAATAACAGGGTACAGTACTCGAGTACTGTACCCTGTTATTAGTGTTTTTG
	sh1-R	AATTCAAAAACACTAATAACAGGGTACAGTACTCGAGTACTGTACCCTGTTATTAGTG
	sh2-F	CCGGATAGTTGTGGTACGGTCTAAACTCGAGTTTAGACCGTACCACAACTATTTTTTG
	sh2-R	AATTCAAAAAATAGTTGTGGTACGGTCTAAACTCGAGTTTAGACCGTACCACAACTAT
	sh3-F	CCGGTACTGTAAACATAGCCTATTTCTCGAGAAATAGGCTATGTTTACAGTATTTTTG
	sh3-R	AATTCAAAAATACTGTAAACATAGCCTATTTCTCGAGAAATAGGCTATGTTTACAGTA
PATZ1	sh1-F	CCGGGCAACAAAGAAGGCCAGAAATCTCGAGATTTCTGGCCTTCTTTGTTGCTTTTTG
	sh1-R	AATTCAAAAAGCAACAAAGAAGGCCAGAAATCTCGAGATTTCTGGCCTTCTTTGTTGC
	sh2-F	CCGGCCGCTCTAAGTCCTACTTGAACTCGAGTTCAAGTAGGACTTAGAGCGGTTTTTG
	sh2-R	AATTCAAAAACCGCTCTAAGTCCTACTTGAACTCGAGTTCAAGTAGGACTTAGAGCGG
	sh3-F	CCGGTGATCACTTGAACGGACATATCTCGAGATATGTCCGTTCAAGTGATCATTTTTG
	sh3-R	AATTCAAAAATGATCACTTGAACGGACATATCTCGAGATATGTCCGTTCAAGTGATCA
ZBTB20	sh1-F	CCGGCGCAGACAAACCAGCTAGAAACTCGAGTTTCTAGCTGGTTTGTCTGCGTTTTTG
	sh1-R	AATTCAAAAACGCAGACAAACCAGCTAGAAACTCGAGTTTCTAGCTGGTTTGTCTGCG
	sh2-F	CCGGAGCTATGGCACTAGAATTTAACTCGAGTTAAATTCTAGTGCCATAGCTTTTTTG
	sh2-R	AATTCAAAAAAGCTATGGCACTAGAATTTAACTCGAGTTAAATTCTAGTGCCATAGCT
	sh3-F	CCGGGGCCTGCTGGTACATTACATTTCTCGAGAAATGTAATGTACCAGCAGGCTTTTTG
	sh3-R	AATTCAAAAAGCCTGCTGGTACATTACATTTCTCGAGAAATGTAATGTACCAGCAGGC
ZBTB21	sh1-F	CCGGCGAGAGCAAGTGTGAGTATAACTCGAGTTATACTCACACTTGCTCTCGTTTTTG
	sh1-R	AATTCAAAAACGAGAGCAAGTGTGAGTATAACTCGAGTTATACTCACACTTGCTCTCG
	sh2-F	CCGGCCTTTCTGACTAACATCGTTTCTCGAGAAACGATGTTAGTCAGAAAGGTTTTTG
	sh2-R	AATTCAAAAACCTTTCTGACTAACATCGTTTCTCGAGAAACGATGTTAGTCAGAAAGG
	sh3-F	CCGGGCAGCGAATACTTTCAGAGTTCTCGAGAACTCTGAAAGTATTCGCTGCTTTTTG
	sh3-R	AATTCAAAAAGCAGCGAATACTTTCAGAGTTCTCGAGAACTCTGAAAGTATTCGCTGC
ZBTB22	sh1-F	CCGGTGCACTGAACTACTCCGAGAACTCGAGTTCTCGGAGTAGTTCAGTGCATTTTTG
	sh1-R	AATTCAAAAATGCACTGAACTACTCCGAGAACTCGAGTTCTCGGAGTAGTTCAGTGCA
	sh2-F	CCGGGCTACCCTCAGCATAAGTGATCTCGAGATCACTTATGCTGAGGGTAGCTTTTTG
	sh2-R	AATTCAAAAAGCTACCCTCAGCATAAGTGATCTCGAGATCACTTATGCTGAGGGTAGC
	sh3-F	CCGGGTGCTCCAAATGTGGCACATTCTCGAGAATGTGCCACATTTGGAGCACTTTTTG
	sh3-R	AATTCAAAAAGTGCTCCAAATGTGGCACATTCTCGAGAATGTGCCACATTTGGAGCAC
GZF1	sh1-F	CCGGGTGGATGGTACTAGGACTAATCTCGAGATTAGTCCTAGTACCATCCACTTTTTG
	sh1-R	AATTCAAAAAGTGGATGGTACTAGGACTAATCTCGAGATTAGTCCTAGTACCATCCAC
	sh2-F	CCGGCCACATGCTGATTTATCATAACTCGAGTTATGATAAATCAGCATGTGGTTTTTG
	sh2-R	AATTCAAAAACCACATGCTGATTTATCATAACTCGAGTTATGATAAATCAGCATGTGG
	sh3-F	CCGGGCACACCTCAATACACGATAACTCGAGTTATCGTGTATTGAGGTGTGCTTTTTG
	sh3-R	AATTCAAAAAGCACACCTCAATACACGATAACTCGAGTTATCGTGTATTGAGGTGTGC
ZBTB24	sh1-F	CCGGCCTCTGTGACATTACTTTAATCTCGAGATTAAAGTAATGTCACAGAGGTTTTTG
	sh1-R	AATTCAAAAACCTCTGTGACATTACTTTAATCTCGAGATTAAAGTAATGTCACAGAGG
	sh2-F	CCGGGAAGCCATTTACTTGTGAAATCTCGAGATTTCACAAGTAAATGGCTTCTTTTTG
	sh2-R	AATTCAAAAAGAAGCCATTTACTTGTGAAATCTCGAGATTTCACAAGTAAATGGCTTC
	sh3-F	CCGGGCAGTGTTTCACAATTCATTTCTCGAGAAATGAATTGTGAAACACTGCTTTTTG
	sh3-R	AATTCAAAAAGCAGTGTTTCACAATTCATTTCTCGAGAAATGAATTGTGAAACACTGC
ZBTB25	sh1-F	CCGGCGCTTGTCACAAGAACACTTACTCGAGTAAGTGTTCTTGTGACAAGCGTTTTTG
	sh1-R	AATTCAAAAACGCTTGTCACAAGAACACTTACTCGAGTAAGTGTTCTTGTGACAAGCG
	sh2-F	CCGGGCCGACTACCTTTCTCACATTCTCGAGAATGTGAGAAAGGTAGTCGGCTTTTTG
	sh2-R	AATTCAAAAAGCCGACTACCTTTCTCACATTCTCGAGAATGTGAGAAAGGTAGTCGGC

	sh3-F	CCGGCAGATCAGTCAAGTATCTTTGCTCGAGCAAAGATACTTGACTGATCTGTTTTTG
	sh3-R	AATTCAAAAACAGATCAGTCAAGTATCTTTGCTCGAGCAAAGATACTTGACTGATCTG
ZBTB26	sh1-F	CCGGCCCTTCTTAAGAGACCAATTTCTCGAGAAATTGGTCTCTTAAGAAGGGTTTTTG
	sh1-R	AATTCAAAAACCCTTCTTAAGAGACCAATTTCTCGAGAAATTGGTCTCTTAAGAAGGG
	sh2-F	CCGGGAACTACGCCAACCATTTAAACTCGAGTTTAAATGGTTGGCGTAGTTCTTTTTG
	sh2-R	AATTCAAAAAGAACTACGCCAACCATTTAAACTCGAGTTTAAATGGTTGGCGTAGTTC
	sh3-F	CCGGTGCGTGTGCATGCCGGAATTACTCGAGTAATTCCGGCATGCACACGCATTTTTG
	sh3-R	AATTCAAAAATGCGTGTGCATGCCGGAATTACTCGAGTAATTCCGGCATGCACACGCA
BCL6	sh1-F	CCGGCCACAGTGACAAACCCTACAACTCGAGTTGTAGGGTTTGTCACTGTGGTTTTTG
	sh1-R	AATTCAAAAACCACAGTGACAAACCCTACAACTCGAGTTGTAGGGTTTGTCACTGTGG
	sh2-F	CCGGTGTGCCACAGCAATATCTATTCTCGAGAATAGATATTGCTGTGGCACATTTTTG
	sh2-R	AATTCAAAAATGTGCCACAGCAATATCTATTCTCGAGAATAGATATTGCTGTGGCACA
	sh3-F	CCGGCCCATGATGTAGTGCCTCTTTCTCGAGAAAGAGGCACTACATCATGGGTTTTTG
	sh3-R	AATTCAAAAACCCATGATGTAGTGCCTCTTTCTCGAGAAAGAGGCACTACATCATGGG
BCL6B	sh1-F	CCGGGTACAAGTACATCGTGCTAAACTCGAGTTTAGCACGATGTACTTGTACTTTTTG
	sh1-R	AATTCAAAAAGTACAAGTACATCGTGCTAAACTCGAGTTTAGCACGATGTACTTGTAC
	sh2-F	CCGGGAAATTGCCACCCTCTTAATTCTCGAGAATTAAGAGGGTGGCAATTTCTTTTTG
	sh2-R	AATTCAAAAAGAAATTGCCACCCTCTTAATTCTCGAGAATTAAGAGGGTGGCAATTTC
HIC1	sh1-F	CCGGCGGGACTGATAATGTGAAGTTCTCGAGAACTTCACATTATCAGTCCCGTTTTTG
	sh1-R	AATTCAAAAACGGGACTGATAATGTGAAGTTCTCGAGAACTTCACATTATCAGTCCCG
	sh2-F	CCGGATAATGTGAAGTTCCTCATTTCTCGAGAAATGAGGAACTTCACATTATTTTTTG
	sh2-R	AATTCAAAAAATAATGTGAAGTTCCTCATTTCTCGAGAAATGAGGAACTTCACATTAT
	sh3-F	CCGGTCTCCTCTATCGCTGGATGAACTCGAGTTCATCCAGCGATAGAGGAGATTTTTG
	sh3-R	AATTCAAAAATCTCCTCTATCGCTGGATGAACTCGAGTTCATCCAGCGATAGAGGAGA
HIC2	sh1-F	CCGGACGTTTGTGCGACATAGTATTCTCGAGAATACTATGTCGCACAAACGTTTTTTG
	sh1-R	AATTCAAAAACGTTTGTGCGACATAGTATTCTCGAGAATACTATGTCGCACAAACGT
	sh2-F	CCGGTGCCAACAGTGCCTCTTATTCCTCGAGGAATAAGAGGCACTGTTGGCATTTTTG
	sh2-R	AATTCAAAAATGCCAACAGTGCCTCTTATTCCTCGAGGAATAAGAGGCACTGTTGGCA
	sh3-F	CCGGCGCCAGCAGCATCTATTTCAACTCGAGTTGAAATAGATGCTGCTGGCGTTTTTG
	sh3-R	AATTCAAAAACGCCAGCAGCATCTATTTCAACTCGAGTTGAAATAGATGCTGCTGGCG
MYNN	sh1-F	CCGGGTCTCCTACATCAGATACATTCTCGAGAATGTATCTGATGTAGGAGACTTTTTG
	sh1-R	AATTCAAAAAGTCTCCTACATCAGATACATTCTCGAGAATGTATCTGATGTAGGAGAC
	sh2-F	CCGGATTTGAGTTGTGACCATTATTCTCGAGAATAATGGTCACAACTCAAATTTTTTG
	sh2-R	AATTCAAAAAATTTGAGTTGTGACCATTATTCTCGAGAATAATGGTCACAACTCAAAT
	sh3-F	CCGGGACCATTTATCTGCGAATTATCTCGAGATAATTCGCAGATAAATGGTCTTTTTG
	sh3-R	AATTCAAAAAGACCATTTATCTGCGAATTATCTCGAGATAATTCGCAGATAAATGGTC
ZBTB32	sh1-F	CCGGAGGATCCCACTGTCCCTAAATCTCGAGATTTAGGGACAGTGGGATCCTTTTTG
	sh1-R	AATTCAAAAAAGGATCCCACTGTCCCTAAATCTCGAGATTTAGGGACAGTGGGATCCT
	sh2-F	CCGGCTTAGCCAAGAGTCCAATTAACTCGAGTTAATTGGACTCTTGGCTAAGTTTTTG
	sh2-R	AATTCAAAAACTTAGCCAAGAGTCCAATTAACTCGAGTTAATTGGACTCTTGGCTAAG
ZBTB33	sh1-F	CCGGCCCTTCCATGTTAGCACTTTACTCGAGTAAAGTGCTAACATGGAAGGGTTTTTG
	sh1-R	AATTCAAAAACCCTTCCATGTTAGCACTTTACTCGAGTAAAGTGCTAACATGGAAGGG
	sh2-F	CCGGCGGTGAAGATACTTATGATATCTCGAGATATCATAAGTATCTTCACCGTTTTTG
	sh2-R	AATTCAAAAACGGTGAAGATACTTATGATATCTCGAGATATCATAAGTATCTTCACCG
	sh3-F	CCGGGTAGATGGAAGGGTCTATTATCTCGAGATAATAGACCCTTCCATCTACTTTTTG
	sh3-R	AATTCAAAAAGTAGATGGAAGGGTCTATTATCTCGAGATAATAGACCCTTCCATCTAC
ZBTB34	sh1-F	CCGGTTGTCCGTCTTAACCTTATTTCTCGAGAAATAAGGTTAAGACGGACAATTTTTG
	sh1-R	AATTCAAAAATTGTCCGTCTTAACCTTATTTCTCGAGAAATAAGGTTAAGACGGACAA
	sh2-F	CCGGGTGTCTGATGCTCCCGATTAACTCGAGTTAATCGGGAGCATCAGACACTTTTTG
	sh2-R	AATTCAAAAAGTGTCTGATGCTCCCGATTAACTCGAGTTAATCGGGAGCATCAGACAC
	sh3-F	CCGGCATGAGCAAGGAGACCTATTGCTCGAGCAATAGGTCTCCTTGCTCATGTTTTTG
	sh3-R	AATTCAAAAACATGAGCAAGGAGACCTATTGCTCGAGCAATAGGTCTCCTTGCTCATG
ZNF131	sh1-F	CCGGCCATTGTACTTTATGTGATTTCTCGAGAAATCACATAAAGTACAATGGTTTTTG
	sh1-R	AATTCAAAAACCATTGTACTTTATGTGATTTCTCGAGAAATCACATAAAGTACAATGG
	sh2-F	CCGGGTAGTAAGTTCTTCTACAAATCTCGAGATTTGTAGAAGAACTTACTACTTTTTG
	sh2-R	AATTCAAAAAGTAGTAAGTTCTTCTACAAATCTCGAGATTTGTAGAAGAACTTACTAC
ZBTB37	sh1-F	CCGGCAGTGAAGTTGACAGATTTAGCTCGAGCTAAATCTGTCAACTTCACTGTTTTTG
	sh1-R	AATTCAAAAACAGTGAAGTTGACAGATTTAGCTCGAGCTAAATCTGTCAACTTCACTG
	sh2-F	CCGGTCTGTTACACAGGGCGGATATCTCGAGATATCCGCCCTGTGTAACAGATTTTTG
	sh2-R	AATTCAAAAATCTGTTACACAGGGCGGATATCTCGAGATATCCGCCCTGTGTAACAGA
	sh3-F	CCGGCGGAGTGATGATGAAGTTAGACTCGAGTCTAACTTCATCATCACTCCGTTTTTG
	sh3-R	AATTCAAAAACGGAGTGATGATGAAGTTAGACTCGAGTCTAACTTCATCATCACTCCG
ZBTB38	sh1-F	CCGGCCTAGTGTCTATCCGTATAAACTCGAGTTTATACGGATAGACACTAGGTTTTTG
	sh1-R	AATTCAAAAACCTAGTGTCTATCCGTATAAACTCGAGTTTATACGGATAGACACTAGG
	sh2-F	CCGGATCACGAGCAGAGGCATATTCCTCGAGGAATATGCCTCTGCTCGTGATTTTTTG
	sh2-R	AATTCAAAAAATCACGAGCAGAGGCATATTCCTCGAGGAATATGCCTCTGCTCGTGAT
	sh3-F	CCGGGTATCCAACTTAGAGGTTAATCTCGAGATTAACCTCTAAGTTGGATACTTTTTG
	sh3-R	AATTCAAAAAGTATCCAACTTAGAGGTTAATCTCGAGATTAACCTCTAAGTTGGATAC
ZBTB39	sh1-F	CCGGCACCGACGGGATGGAATATTTCTCGAGAAATATTCCATCCCGTCGGTGTTTTTG
	sh1-R	AATTCAAAAACACCGACGGGATGGAATATTTCTCGAGAAATATTCCATCCCGTCGGTG
	sh2-F	CCGGTCCTGTCCCACATTGGTATTTCTCGAGAAATACCAATGTGGGACAGGATTTTTG
	sh2-R	AATTCAAAAATCCTGTCCCACATTGGTATTTCTCGAGAAATACCAATGTGGGACAGGA
	sh3-F	CCGGCCAATGTAAGGTGTGCCACAACTCGAGTTGTGGCACACCTTACATTGGTTTTTG
	sh3-R	AATTCAAAAACCAATGTAAGGTGTGCCACAACTCGAGTTGTGGCACACCTTACATTGG
ZBTB40	sh1-F	CCGGACGTGGAAGGTGAGTAATAAACTCGAGTTTATTACTCACCTTCCACGTTTTTTG
	sh1-R	AATTCAAAAACGTGGAAGGTGAGTAATAAACTCGAGTTTATTACTCACCTTCCACGT
	sh2-F	CCGGACACAGCTGAGACCTATTATGCTCGAGCATAATAGGTCTCAGCTGTGTTTTTTG

	sh2-R	AATTCAAAAAACACAGCTGAGACCTATTATGCTCGAGCATAATAGGTCTCAGCTGTGT
	sh3-F	CCGGACCCACCACCCTGACGTATTTCTCGAGAAATACGTCAGGGTGGTGGGTTTTTTG
	sh3-R	AATTCAAAAAACCCACCACCCTGACGTATTTCTCGAGAAATACGTCAGGGTGGTGGGT
ZBTB41	sh1-F	CCGGGATCCATCTAGGCTATCATAACTCGAGTTATGATAGCCTAGATGGATCTTTTTG
	sh1-R	AATTCAAAAAGATCCATCTAGGCTATCATAACTCGAGTTATGATAGCCTAGATGGATC
	sh2-F	CCGGGCAGTGTCCTAAATGTGATAACTCGAGTTATCACATTTAGGACACTGCTTTTTG
	sh2-R	AATTCAAAAAGCAGTGTCCTAAATGTGATAACTCGAGTTATCACATTTAGGACACTGC
	sh3-F	CCGGATCACGGTTTGCTCGGTTAAACTCGAGTTTAACCGAGCAAACCGTGATTTTTTG
	sh3-R	AATTCAAAAAATCACGGTTTGCTCGGTTAAACTCGAGTTTAACCGAGCAAACCGTGAT
ZBTB42	sh1-F	CCGGCCAGCCAAGTCTACGTTATTTCTCGAGAAATAACGTAGACTTGGCTGGTTTTTG
	sh1-R	AATTCAAAAACCAGCCAAGTCTACGTTATTTCTCGAGAAATAACGTAGACTTGGCTGG
	sh2-F	CCGGCGTTGTGCAGCAAGCTGTTTCCTCGAGGAAACAGCTTGCTGCACAACGTTTTTG
	sh2-R	AATTCAAAAACGTTGTGCAGCAAGCTGTTTCCTCGAGGAAACAGCTTGCTGCACAACG
	sh3-F	CCGGGGCGTCTACTTCCATCTCTTCTCTCGAGAGAAGAGATGGAAGTAGACGCTTTTTG
	sh3-R	AATTCAAAAAGCGTCTACTTCCATCTCTTCTCTCGAGAGAAGAGATGGAAGTAGACGC
ZBTB43	sh1-F	CCGGCCAAGCAGCAGTAGTTATAATCTCGAGATTATAACTACTGCTGCTTGGTTTTTG
	sh1-R	AATTCAAAAACCAAGCAGCAGTAGTTATAATCTCGAGATTATAACTACTGCTGCTTGG
	sh2-F	CCGGGCAGGTTACAGTGAGAATATTCTCGAGAATATTCTCACTGTAACCTGCTTTTTG
	sh2-R	AATTCAAAAAGCAGGTTACAGTGAGAATATTCTCGAGAATATTCTCACTGTAACCTGC
	sh3-F	CCGGGCTCTAAGTAGGCCAATTAAACTCGAGTTTAATTGGCCTACTTAGAGCTTTTTG
	sh3-R	AATTCAAAAAGCTCTAAGTAGGCCAATTAAACTCGAGTTTAATTGGCCTACTTAGAGC
ZBTB44	sh1-F	CCGGCGGTAGAAGAATGGCTGATTACTCGAGTAATCAGCCATTCTTCTACCGTTTTTG
	sh1-R	AATTCAAAAACGGTAGAAGAATGGCTGATTACTCGAGTAATCAGCCATTCTTCTACCG
	sh2-F	CCGGGTCTAGATGCTGGACAAGAAACTCGAGTTTCTTGTCCAGCATCTAGACTTTTTG
	sh2-R	AATTCAAAAAGTCTAGATGCTGGACAAGAAACTCGAGTTTCTTGTCCAGCATCTAGAC
ZBTB45	sh1-F	CCGGGACGAATGCACGCAGATTATCCTCGAGGATAATCTGCGTGCATTCGTCTTTTTG
	sh1-R	AATTCAAAAAGACGAATGCACGCAGATTATCCTCGAGGATAATCTGCGTGCATTCGTC
	sh2-F	CCGGGCTTCGCATACAGACAGTTATCTCGAGATAACTGTCTGTATGCGAAGCTTTTTG
	sh2-R	AATTCAAAAAGCTTCGCATACAGACAGTTATCTCGAGATAACTGTCTGTATGCGAAGC
	sh3-F	CCGGGTATTTCCAGACAGCTATGTACTCGAGTACATAGCTGTCTGGAAATACTTTTTG
	sh3-R	AATTCAAAAAGTATTTCCAGACAGCTATGTACTCGAGTACATAGCTGTCTGGAAATAC
ZBTB46	sh1-F	CCGGGCTACTTCAAGACGCTCTACTCTCGAGAGTAGAGCGTCTTGAAGTAGCTTTTTG
	sh1-R	AATTCAAAAAGCTACTTCAAGACGCTCTACTCTCGAGAGTAGAGCGTCTTGAAGTAGC
	sh2-F	CCGGCGGTGCAGTACAGAACTCTTTCTCGAGAAAGAGTTCTGTACTGCACCGTTTTTG
	sh2-R	AATTCAAAAACGGTGCAGTACAGAACTCTTTCTCGAGAAAGAGTTCTGTACTGCACCG
ZBTB47	sh1-F	CCGGCCATGAGCATAACAAGATTGTCTCGAGACAATCTTGTTATGCTCATGGTTTTTG
	sh1-R	AATTCAAAAACCATGAGCATAACAAGATTGTCTCGAGACAATCTTGTTATGCTCATGG
	sh2-F	CCGGGAAGAAGTTCTCATGCGAGATCTCGAGATCTCGCATGAGAACTTCTTCTTTTTG
	sh2-R	AATTCAAAAAGAAGAAGTTCTCATGCGAGATCTCGAGATCTCGCATGAGAACTTCTTC
	sh3-F	CCGGGTCACACATGAGCATCCACATCTCGAGATGTGGATGCTCATGTGTGACTTTTTG
	sh3-R	AATTCAAAAAGTCACACATGAGCATCCACATCTCGAGATGTGGATGCTCATGTGTGAC
ZBTB48	sh1-F	CCGGCGACCGGGTAGAGAACTACAACTCGAGTTGTAGTTCTCTACCCGGTCGTTTTTG
	sh1-R	AATTCAAAAACGACCGGGTAGAGAACTACAACTCGAGTTGTAGTTCTCTACCCGGTCG
	sh2-F	CCGGCTGGCTTCGCTGAGATCTTTGCTCGAGCAAAGATCTCAGCGAAGCCAGTTTTTG
	sh2-R	AATTCAAAAACTGGCTTCGCTGAGATCTTTGCTCGAGCAAAGATCTCAGCGAAGCCAG
ZBTB49	sh1-F	CCGGGACGTCCAGCGTCACATTATTCTCGAGAATAATGTGACGCTGGACGTCTTTTTG
	sh1-R	AATTCAAAAAGACGTCCAGCGTCACATTATTCTCGAGAATAATGTGACGCTGGACGTC
	sh2-F	CCGGGCCTTTCAAACAGCCAAATTACTCGAGTAATTTGGCTGTTTGAAAGGCTTTTTG
	sh2-R	AATTCAAAAAGCCTTTCAAACAGCCAAATTACTCGAGTAATTTGGCTGTTTGAAAGGC
AXL	sh1-F	CCGGCCTAAGCATCTAAGTTATAAGCTCGAGCTTATAACTTAGATGCTTAGGTTTTTG
	sh1-R	AATTCAAAAACCTAAGCATCTAAGTTATAAGCTCGAGCTTATAACTTAGATGCTTAGG
	sh2-F	CCGGGCGGTCTGCATGAAGGAATTTCTCGAGAAATTCCTTCATGCAGACCGCTTTTTG
	sh2-R	AATTCAAAAAGCGGTCTGCATGAAGGAATTTCTCGAGAAATTCCTTCATGCAGACCGC
AKT	sh1-F	CCGGCGCGTGACCATGAACGAGTTTCTCGAGAAACTCGTTCATGGTCACGCGTTTTTG
	sh1-R	AATTCAAAAACGCGTGACCATGAACGAGTTTCTCGAGAAACTCGTTCATGGTCACGCG
MYC	sh1-F	CCGGCCTGAGACAGATCAGCAACAACTCGAGTTGTTGCTGATCTGTCTCAGGTTTTTG
	sh1-R	AATTCAAAAACCTGAGACAGATCAGCAACAACTCGAGTTGTTGCTGATCTGTCTCAGG

SI Table S2

Correlation between average effect of ZBTB depletion on U87 cell growth and differential gene expression (GBM versus Epilepsy)

Gene Name	Log$_2$ fold change of gene expression (GBM Vs Epilepsy)	Average effect of ZBTB depletion on U87 cell growth
AKT (Positive control)	0.54	0.48
BCL6	1.15	0.55
BCL6B	0.04	0.55
GZF1	-0.08	0.71
HIC1	-0.15	0.71
HIC2	-0.08	0.75
MYC (Positive control)	1.38	0.72
MYNN	0.14	1.13
PATZ1	0.19	0.63
ZBTB1	0.48	0.80
ZBTB10	0.43	0.90
ZBTB11	0.02	0.78
ZBTB12	-0.05	0.75
ZBTB14	0.07	0.92
ZBTB16	-0.21	0.76
ZBTB17	-0.04	0.86
ZBTB18	-1.05	0.64
ZBTB2	0.04	0.84
ZBTB20	1.12	0.67
ZBTB21	0.31	0.93
ZBTB22	-0.20	0.78
ZBTB24	-0.04	0.99
ZBTB25	0.08	0.78
ZBTB26	0.24	0.70
ZBTB3	-0.20	0.86
ZBTB32	-0.20	1.18
ZBTB33	0.20	1.05
ZBTB34	-0.16	1.34
ZBTB37	-0.01	0.95
ZBTB38	0.05	1.18
ZBTB39	0.14	1.02
ZBTB4	-0.43	0.95
ZBTB40	0.18	0.99
ZBTB41	-0.39	0.98
ZBTB42	0.65	0.60
ZBTB43	0.08	0.98
ZBTB44	-0.56	0.81
ZBTB45	0.03	0.88
ZBTB46	-0.24	0.82
ZBTB47	-0.33	0.62
ZBTB48	0.13	1.16
ZBTB49	-0.02	1.02
ZBTB5	0.31	0.58
ZBTB6	-0.01	1.06
ZBTB7A	-0.31	0.97
ZBTB7B	-0.11	0.87
ZBTB7C	-0.06	1.15
ZBTB8A	0.50	1.12
ZBTB8B	0.20	1.21
ZBTB9	0.24	1.01
ZNF131	0.30	1.31

SI Table S3

Differential gene expression after BCL6 knockdown in U87 cells

PROBE ID	Gene	log2 Fold Change	Average Expression	p-value	FDR
ILMN_1671353	IL12A	-1.06	6.55	0.00	0.00
ILMN_1772612	ANGPTL2	1.21	9.04	0.00	0.00
ILMN_2110908	MYC	-1.00	8.26	0.00	0.00
ILMN_1737314	BCL6	-0.96	8.90	0.00	0.00
ILMN_1687301	VCAN	0.88	9.45	0.00	0.00
ILMN_1680618	MYC	-0.93	9.86	0.00	0.00
ILMN_1768505	IL13RA1	-0.95	10.86	0.00	0.00
ILMN_3246214	B3GNT1	-0.73	9.43	0.00	0.00
ILMN_1757406	HIST1H1C	0.74	9.91	0.00	0.01
ILMN_1699856	RALGDS	0.68	9.75	0.00	0.01
ILMN_1690170	CRABP2	0.86	8.85	0.00	0.02
ILMN_1771841	FOSL1	-0.64	10.57	0.00	0.02
ILMN_2182750	DDX1	-0.59	11.58	0.00	0.03
ILMN_1684755	KAZALD1	0.58	6.73	0.00	0.03
ILMN_1703374	NAV1	0.62	7.92	0.00	0.03
ILMN_3235647	SIK1	-0.57	6.42	0.00	0.04
ILMN_1721833	IER5	0.70	8.69	0.00	0.04
ILMN_1812926	ANTXR2	-0.66	8.20	0.00	0.05
ILMN_1764383	MCOLN1	0.54	8.73	0.00	0.05
ILMN_3251560	TMEM167A	-2.74	8.70	0.00	0.00
ILMN_1775501	IL1B	-2.67	7.23	0.00	0.00
ILMN_1767475	CERK	-2.31	8.75	0.00	0.00
ILMN_2371379	ACLY	-2.29	10.69	0.00	0.00
ILMN_2059505	ARPP19	-2.21	8.85	0.00	0.00
ILMN_2396020	DUSP6	-2.30	8.08	0.00	0.00
ILMN_2388975	CERK	-1.94	7.93	0.00	0.00
ILMN_1776216	MMGT1	-2.43	9.27	0.00	0.00
ILMN_1659801	ATP6V1C1	-1.89	7.97	0.00	0.00
ILMN_1698179	TAGLN3	-1.99	7.05	0.00	0.00
ILMN_1760676	MORF4L1	-1.87	10.68	0.00	0.00
ILMN_1775170	MT1X	-1.77	12.96	0.00	0.00
ILMN_1773865	HSPA5	-2.08	8.91	0.00	0.00
ILMN_1859946		-1.73	9.85	0.00	0.00
ILMN_3237986	MMGT1	-2.15	7.93	0.00	0.00
ILMN_1697024	LOC730432	-1.96	8.08	0.00	0.00
ILMN_2217329	IAH1	-1.84	9.75	0.00	0.00
ILMN_3258424	LOC100129118	-1.91	9.53	0.00	0.00
ILMN_1659952	MTMR2	-1.70	7.37	0.00	0.00
ILMN_1749014	ACLY	-1.78	9.69	0.00	0.00
ILMN_2392189	CTDSPL	-1.59	8.09	0.00	0.00
ILMN_2081398	KIF3B	-1.68	7.79	0.00	0.00
ILMN_2061950	RABGAP1	-1.72	8.46	0.00	0.00
ILMN_1680774	LOC730994	-1.76	7.85	0.00	0.00
ILMN_2216157	GNA12	-1.62	8.44	0.00	0.00
ILMN_1772798	ARPP19	-1.69	7.40	0.00	0.00
ILMN_1704305	NIP7	-1.65	9.04	0.00	0.00
ILMN_2162989	TMEM189	-1.54	8.65	0.00	0.00
ILMN_3245659	ERI1	-1.51	7.98	0.00	0.00
ILMN_1700549	ERLIN2	-1.76	7.73	0.00	0.00
ILMN_1776325	UBE2Q1	-1.60	7.58	0.00	0.00
ILMN_1673566	ADAMTS1	-1.53	8.70	0.00	0.00
ILMN_1723007	ZCCHC9	-1.46	9.94	0.00	0.00
ILMN_1777139	MAK16	-1.68	7.82	0.00	0.00
ILMN_1811921	CSRP1	-1.45	10.36	0.00	0.00
ILMN_1691181	TMX1	-1.70	9.26	0.00	0.00
ILMN_2053679	ACADM	-1.37	9.11	0.00	0.00
ILMN_2150856	SERPINB2	-1.67	6.71	0.00	0.00
ILMN_1764788	TNFRSF1B	-1.60	8.35	0.00	0.00
ILMN_2121408	HBEGF	-1.52	7.99	0.00	0.00
ILMN_1685079	TELO2	1.49	7.56	0.00	0.00
ILMN_1740415	WFDC3	-1.37	8.31	0.00	0.00
ILMN_1707727	ANGPTL4	-2.14	7.35	0.00	0.00
ILMN_3305111	LOC728510	-1.42	7.93	0.00	0.00
ILMN_2388155	CASP3	-1.31	8.27	0.00	0.00
ILMN_1697069	CSF3	-1.33	7.24	0.00	0.00
ILMN_2100689	MAP2K4	-1.43	7.56	0.00	0.00
ILMN_1778599	SP140	-1.34	8.15	0.00	0.00
ILMN_1689665	NAE1	-1.39	10.51	0.00	0.00
ILMN_3307483	MCF2L	1.45	8.71	0.00	0.00
ILMN_2415439	NAE1	-1.51	8.50	0.00	0.00
ILMN_1780334	KCNJ2	1.44	7.71	0.00	0.00
ILMN_1726421	METTL9	-1.43	7.45	0.00	0.00
ILMN_2322768	CSF3	-1.30	6.71	0.00	0.00
ILMN_1711786	NFE2	1.27	6.66	0.00	0.00
ILMN_2374340	PLAUR	-1.28	9.99	0.00	0.00
ILMN_1666384	LOC151579	-1.29	9.99	0.00	0.00

ILMN_2408543	PLAUR	-1.30	8.93	0.00	0.00
ILMN_1788356	C11orf17	-1.27	8.89	0.00	0.00
ILMN_2070896	BMPR2	-1.43	6.82	0.00	0.00
ILMN_1673113	F2RL1	-1.37	7.30	0.00	0.00
ILMN_2308903	WFDC3	-1.27	9.52	0.00	0.00
ILMN_3241173	LOC100134230	-1.29	6.91	0.00	0.00
ILMN_1702279	KIF3B	-1.49	8.11	0.00	0.00
ILMN_1713496	ST3GAL5	1.24	7.59	0.00	0.00
ILMN_1676548	BZW2	-1.25	10.03	0.00	0.00
ILMN_2128795	LRIG1	-1.38	7.83	0.00	0.00
ILMN_1760954	DENR	-1.28	10.36	0.00	0.00
ILMN_1802669	PPP3CB	-1.30	8.32	0.00	0.00
ILMN_1764163	LOC644330	-1.21	7.65	0.00	0.00
ILMN_1691930	CBX6	1.21	9.45	0.00	0.00
ILMN_1656111	MYLIP	1.22	7.22	0.00	0.00
ILMN_2174369	ELOVL5	-1.35	8.75	0.00	0.00
ILMN_1655921	GTF2E1	-1.20	7.52	0.00	0.00
ILMN_1767837	GOLT1B	-1.34	8.40	0.00	0.00
ILMN_1741021	CH25H	1.38	7.61	0.00	0.00
ILMN_1677092	GEM	-1.31	9.38	0.00	0.00
ILMN_1803279	TMED5	-1.23	8.91	0.00	0.00
ILMN_1762899	EGR1	-1.30	7.74	0.00	0.00
ILMN_1743299	PXMP3	-1.47	7.86	0.00	0.00
ILMN_1778836	SFRS7	-1.18	9.39	0.00	0.00
ILMN_1733998	DHRS9	-1.30	7.49	0.00	0.00
ILMN_2189869	FCF1	-1.16	6.72	0.00	0.00
ILMN_2380418	BICD2	-1.17	8.53	0.00	0.00
ILMN_1743677	HNRNPU	-1.20	7.48	0.00	0.00
ILMN_2234697	BEX1	-2.16	8.36	0.00	0.00
ILMN_1700168	LARS2	-1.21	7.76	0.00	0.00
ILMN_1752988	C11orf17	-1.16	9.84	0.00	0.00
ILMN_1701877	AXL	-1.21	11.15	0.00	0.00
ILMN_1662640	C20orf127	-1.21	10.53	0.00	0.00
ILMN_2123567	SENP2	-1.15	8.07	0.00	0.00
ILMN_2349459	BIRC5	-1.17	9.31	0.00	0.00
ILMN_1707342	LRIG1	-1.17	7.10	0.00	0.00
ILMN_1737813	PRNPIP	-1.15	8.73	0.00	0.00
ILMN_1655595	SERPINE2	-1.17	11.53	0.00	0.00
ILMN_1794803	NDP	-1.55	9.94	0.00	0.00
ILMN_1752965	GREM1	-1.64	8.73	0.00	0.00
ILMN_1686388	LOC644330	-1.20	8.55	0.00	0.00
ILMN_1764043	TTL	-1.13	9.81	0.00	0.00
ILMN_2136089	MTE	-1.36	11.27	0.00	0.00
ILMN_1760121	RRAGC	-1.19	9.53	0.00	0.00
ILMN_1678612	ANXA6	-1.10	7.31	0.00	0.00
ILMN_1757497	VGF	-1.16	11.88	0.00	0.00
ILMN_1699160	ITK	-1.14	7.32	0.00	0.00
ILMN_2061732	YRDC	-1.22	9.68	0.00	0.00
ILMN_1704154	TNFRSF19	-1.11	7.41	0.00	0.00
ILMN_1753607	PNO1	-1.15	8.31	0.00	0.00
ILMN_1800512	HMOX1	-1.23	11.31	0.00	0.00
ILMN_1699476	RPE	-1.11	9.51	0.00	0.00
ILMN_2160929	FEN1	-1.12	11.13	0.00	0.00
ILMN_1766222	LARP4B	-1.11	8.48	0.00	0.00
ILMN_1719064	KCTD10	-1.25	7.31	0.00	0.00
ILMN_1742813	TMEM167A	-1.21	8.34	0.00	0.00
ILMN_1753525	TCEAL7	-1.33	9.62	0.00	0.00
ILMN_1678671	KLHL24	1.14	8.09	0.00	0.00
ILMN_2078592	C6orf105	-1.15	6.57	0.00	0.00
ILMN_1743034	KIF1B	-1.10	7.56	0.00	0.00
ILMN_2105919	FGF2	-1.09	7.37	0.00	0.00
ILMN_1792256	TBX2	-1.07	8.36	0.00	0.00
ILMN_1801121	SENP2	-1.08	7.38	0.00	0.00
ILMN_1655734	RPF1	-1.06	7.48	0.00	0.00
ILMN_2387385	IGFBP1	-1.75	8.17	0.00	0.00
ILMN_1775304	DNAJB1	-1.11	9.32	0.00	0.00
ILMN_1771697	VRK3	-1.05	9.59	0.00	0.00
ILMN_1704446	SLC6A10P	-1.12	9.15	0.00	0.00
ILMN_1654262	ZMAT3	1.34	10.99	0.00	0.00
ILMN_2359029	C11orf17	-1.10	8.41	0.00	0.00
ILMN_2150851	SERPINB2	-1.52	7.01	0.00	0.00
ILMN_1693338	CYP1B1	1.22	11.77	0.00	0.00
ILMN_1709674	GFPT2	-1.05	9.73	0.00	0.00
ILMN_1790953	TBCB	-1.11	10.36	0.00	0.00
ILMN_1758164	STC1	-1.49	9.84	0.00	0.00
ILMN_1778104	ACADM	-1.13	8.47	0.00	0.00
ILMN_1760160	STX1A	-1.16	9.06	0.00	0.00
ILMN_1742382	RIMS3	-1.16	9.74	0.00	0.00
ILMN_1815705	LZTFL1	-1.11	7.38	0.00	0.00
ILMN_1710906	RNF145	-1.02	8.45	0.00	0.00
ILMN_1730416	CYCS	-1.14	6.79	0.00	0.00
ILMN_1711608	SSBP2	1.08	8.78	0.00	0.00
ILMN_3306997	METTL1	-1.03	9.26	0.00	0.00
ILMN_1748291	C1orf55	-1.10	7.59	0.00	0.00
ILMN_2274586	PKD1L2	1.16	7.98	0.00	0.00
ILMN_1865764		1.11	10.44	0.00	0.00

ILMN_1760315	VWCE	1.09	7.42	0.00	0.00
ILMN_1789095	BMPR2	-1.08	6.55	0.00	0.00
ILMN_2048793	CIAO1	-1.11	9.83	0.00	0.00
ILMN_1813657	PHF20	-1.01	7.38	0.00	0.00
ILMN_1668514	PIP5K1C	-1.01	7.81	0.00	0.00
ILMN_1750062	PPARGC1A	1.13	7.62	0.00	0.00
ILMN_1815190	METTL1	-1.03	8.50	0.00	0.00
ILMN_1751097	CREB3L2	-1.05	10.27	0.00	0.00
ILMN_1697567	TPM3	-1.25	9.46	0.00	0.00
ILMN_1808374	SNTB2	-1.03	9.85	0.00	0.00
ILMN_1799889	ATP6V0D2	-1.03	6.56	0.00	0.00
ILMN_2382942	CA12	-1.20	8.61	0.00	0.00
ILMN_1682775	EDN1	-1.01	5.90	0.00	0.00
ILMN_2364022	SLC16A3	-1.12	10.07	0.00	0.00
ILMN_1691112	PIGN	-1.03	7.77	0.00	0.00
ILMN_2372316	PKD1L2	0.98	6.74	0.00	0.00
ILMN_1656194	TSPAN10	1.14	10.74	0.00	0.00
ILMN_2401933	ATP2B1	-0.98	6.63	0.00	0.00
ILMN_1720998	CA12	-1.29	11.04	0.00	0.00
ILMN_1660775	LOC650152	-0.98	12.73	0.00	0.00
ILMN_2359907	CD68	-1.05	10.60	0.00	0.00
ILMN_1765796	ENO2	-1.05	10.50	0.00	0.00
ILMN_1681886	ADAMTS5	-1.03	6.97	0.00	0.00
ILMN_2242937	ARSB	-0.96	7.31	0.00	0.00
ILMN_1729117	COL5A2	1.01	9.38	0.00	0.00
ILMN_1703955	FBXO32	1.04	11.98	0.00	0.00
ILMN_1774083	TRIAP1	-1.13	9.14	0.00	0.00
ILMN_2364521	AXL	-0.95	10.66	0.00	0.00
ILMN_1740466	FAM46A	0.98	10.28	0.00	0.00
ILMN_2367883	GEM	-0.96	9.47	0.00	0.00
ILMN_2100693	MAP2K4	-0.97	6.73	0.00	0.00
ILMN_1778673	GOLGA7	-0.96	10.22	0.00	0.00
ILMN_1732772	PPME1	-0.96	8.05	0.00	0.00
ILMN_3247882	ERI3	-0.99	8.52	0.00	0.00
ILMN_1728083	EIF4EBP2	-1.03	7.16	0.00	0.00
ILMN_1676719	LOC644330	-1.13	7.99	0.00	0.00
ILMN_1666444	RBMS1	-0.98	9.67	0.00	0.00
ILMN_1755834	FEN1	-0.94	8.75	0.00	0.00
ILMN_2124802	MT1H	-1.23	8.49	0.00	0.00
ILMN_1663640	MAOA	-1.60	8.01	0.00	0.00
ILMN_1796925	CXADR	0.98	8.87	0.00	0.00
ILMN_2173611	MT1E	-1.01	13.24	0.00	0.00
ILMN_1741171	TM2D2	-0.94	6.95	0.00	0.00
ILMN_1653856	STS-1	-0.94	7.91	0.00	0.00
ILMN_2237428	SCD5	-1.03	6.37	0.00	0.00
ILMN_2348788	CD44	-1.29	9.61	0.00	0.00
ILMN_1803429	CD44	-1.07	12.57	0.00	0.00
ILMN_1713143	MRPL3	-0.96	11.20	0.00	0.00
ILMN_1652280	FBXO32	0.98	11.34	0.00	0.00
ILMN_1790757	ADSL	-0.95	10.80	0.00	0.00
ILMN_1705579	MPP4	-1.28	6.59	0.00	0.00
ILMN_1802109	KBTBD9	-0.92	7.60	0.00	0.00
ILMN_3178406	KLHL29	-1.03	8.53	0.00	0.00
ILMN_1769911	SLC38A1	-0.92	10.12	0.00	0.00
ILMN_1706118	HN1L	-0.92	6.76	0.00	0.00
ILMN_2205935	SFXN1	-1.16	7.82	0.00	0.00
ILMN_1726786	TNRC6B	1.05	8.25	0.00	0.00
ILMN_1704876	USP38	-0.92	7.43	0.00	0.00
ILMN_2086105	SPRY4	-0.96	6.64	0.00	0.00
ILMN_1813669	ANKS1A	-0.93	7.43	0.00	0.00
ILMN_1760620	TMEM33	-0.93	6.87	0.00	0.00
ILMN_1753111	NAMPT	-1.08	9.37	0.00	0.00
ILMN_2189870	FCF1	-1.03	7.07	0.00	0.00
ILMN_1810844	RARRES2	0.95	6.88	0.00	0.00
ILMN_1732923	SIPA1L2	0.93	8.83	0.00	0.00
ILMN_1666713	LYPLA1	-1.05	7.82	0.00	0.00
ILMN_1690040	TM7SF2	0.95	6.67	0.00	0.00
ILMN_3239181	ITPRIP	-0.96	8.97	0.00	0.00
ILMN_1754531	AP4E1	-1.02	7.59	0.00	0.00
ILMN_1722276	PAFAH1B1	-1.00	9.67	0.00	0.00
ILMN_1784294	CPA4	-1.03	9.66	0.00	0.00
ILMN_1764709	MAFB	0.92	8.63	0.00	0.00
ILMN_1672565	RG9MTD1	-0.96	7.64	0.00	0.00
ILMN_2096012	UHMK1	-1.01	6.97	0.00	0.00
ILMN_1680091	POP7	-1.02	8.63	0.00	0.00
ILMN_1708537	RBPJ	-1.03	7.58	0.00	0.00
ILMN_1775042	WDR69	-0.93	6.42	0.00	0.00
ILMN_1800626	SESN1	1.12	7.73	0.00	0.00
ILMN_1677466	DUSP6	-1.40	6.17	0.00	0.00
ILMN_1779252	TRIM22	0.90	8.62	0.00	0.00
ILMN_1790577	SLC35F2	-0.91	7.99	0.00	0.00
ILMN_1749071	CNIH3	-0.89	7.19	0.00	0.00
ILMN_2129505	CYBASC3	1.00	9.80	0.00	0.00
ILMN_2041190	F2RL1	-1.18	7.41	0.00	0.00
ILMN_1749405	KIAA1191	-0.98	9.44	0.00	0.00
ILMN_1679655	WDR82	-0.94	9.05	0.00	0.00

ILMN_1681301	AIM2	-0.99	9.58	0.00	0.00
ILMN_1786328	WDR40A	-0.88	8.53	0.00	0.00
ILMN_1685703	ACOX2	-1.02	9.72	0.00	0.00
ILMN_1703852	EFNB2	-1.13	9.22	0.00	0.00
ILMN_1776653	SCML1	0.89	8.93	0.00	0.00
ILMN_1707695	IFIT1	0.92	7.45	0.00	0.00
ILMN_1718766	MT1F	-0.91	11.81	0.00	0.00
ILMN_1805192	ITPRIP	-0.89	9.03	0.00	0.00
ILMN_2188264	CYR61	-0.97	7.45	0.00	0.00
ILMN_1726930	C5orf44	-0.89	7.05	0.00	0.00
ILMN_1745368	TMEM50A	-0.92	7.88	0.00	0.00
ILMN_1741219	RRAGB	0.94	8.15	0.00	0.00
ILMN_1781285	DUSP1	-0.98	9.98	0.00	0.00
ILMN_1697054	LRRN4CL	0.90	6.14	0.00	0.00
ILMN_1791647	ASIP	0.92	6.93	0.00	0.00
ILMN_1663575	MGC87042	-0.91	10.86	0.00	0.00
ILMN_1742789	LPXN	-1.01	11.19	0.00	0.00
ILMN_1697409	TNFRSF14	0.89	10.10	0.00	0.00
ILMN_1779374	AMMECR1	1.00	8.27	0.00	0.00
ILMN_1708101	LMNB2	-0.92	10.75	0.00	0.00
ILMN_2076463	SLC15A4	-1.00	9.19	0.00	0.00
ILMN_1761808	MCFD2	-0.97	9.09	0.00	0.00
ILMN_2075189	SLC35F2	-0.87	8.73	0.00	0.00
ILMN_1654060	MKNK2	0.91	6.48	0.00	0.00
ILMN_1697220	NT5E	-0.94	10.70	0.00	0.00
ILMN_1802519	VPS36	0.87	7.78	0.00	0.00
ILMN_2389590	PRKAR1A	-0.86	9.39	0.00	0.00
ILMN_2049536	TRPV2	-0.96	6.63	0.00	0.00
ILMN_1806023	JUN	-0.89	11.08	0.00	0.00
ILMN_1797359	TRIM78P	0.88	7.55	0.00	0.00
ILMN_1806349	SLC6A8	-0.92	7.45	0.00	0.00
ILMN_2149566	VPS25	-0.93	8.59	0.00	0.00
ILMN_1676361	ARHGAP22	-1.06	9.62	0.00	0.00
ILMN_3295874	LOC100132805	-0.87	8.11	0.00	0.00
ILMN_2326591	ANXA6	-0.88	6.55	0.00	0.00
ILMN_1801403	DCUN1D4	-0.88	8.01	0.00	0.00
ILMN_1756898	COQ9	-0.92		0.00	0.00
ILMN_1693345	CPEB1	-0.86	8.74	0.00	0.00
ILMN_1878029		1.08	7.80	0.00	0.00
ILMN_3243156	AHNAK2	0.86	10.52	0.00	0.00
ILMN_1743456	ZCCHC14	0.84	8.76	0.00	0.00
ILMN_1733094	STEAP1	-0.85	10.03	0.00	0.00
ILMN_3224926	RBM47	-0.86	7.47	0.00	0.00
ILMN_1754660	ZCCHC24	-1.00	7.61	0.00	0.00
ILMN_1672405	TMED7	-1.09	9.64	0.00	0.00
ILMN_1774874	IL1RN	-0.95	8.91	0.00	0.00
ILMN_1735584	ST8SIA5	-0.88	6.82	0.00	0.00
ILMN_1675387	LIMS1	-0.88	8.92	0.00	0.00
ILMN_1832208		-0.92	8.57	0.00	0.00
ILMN_1780898	PRKCH	-1.00	7.45	0.00	0.00
ILMN_2380237	C1QTNF1	1.12	9.67	0.00	0.00
ILMN_1651832	EHD1	-0.85	10.50	0.00	0.00
ILMN_1682717	IER3	-0.83	10.94	0.00	0.00
ILMN_1813091	ARL1	-0.83	9.06	0.00	0.00
ILMN_1716608	NGF	-0.85	6.32	0.00	0.00
ILMN_1677446	TMEM189-UBE2V1	-0.86	7.34	0.00	0.00
ILMN_1787657	CLDN12	-0.83	9.30	0.00	0.00
ILMN_1796074	C18orf56	0.82	8.90	0.00	0.00
ILMN_1764362	LYAR	-0.81	8.62	0.00	0.00
ILMN_1803995	TM7SF3	-0.91	8.85	0.00	0.00
ILMN_1739428	IFIT2	0.88	7.31	0.00	0.00
ILMN_1792455	TMEM158	-0.84	13.54	0.00	0.00
ILMN_1767685	SERPINB7	-1.15	8.65	0.00	0.00
ILMN_1752046	SH2B3	-0.88	11.28	0.00	0.00
ILMN_1705442	CMTM3	-0.85	10.40	0.00	0.00
ILMN_2339202	KTN1	-0.83	10.90	0.00	0.00
ILMN_1697597	KIAA0494	-0.82	9.19	0.00	0.00
ILMN_1768480	VGLL4	-0.88	8.73	0.00	0.00
ILMN_2221046	GM2A	-0.99	7.60	0.00	0.00
ILMN_1793990	ID2	0.95	8.96	0.00	0.00
ILMN_1709094	LIFR	0.86	6.62	0.00	0.00
ILMN_1668863	LYPD1	0.89	8.07	0.00	0.00
ILMN_1652512	C2CD2	-0.84	10.06	0.00	0.00
ILMN_1805007	SEMA4F	-0.83	8.65	0.00	0.00
ILMN_1856480		1.03	7.77	0.00	0.00
ILMN_2388701	ST3GAL5	0.91	6.70	0.00	0.00
ILMN_2054297	PTGS2	-1.01	7.66	0.00	0.00
ILMN_1715401	MT1G	-1.12	9.72	0.00	0.00
ILMN_2369018	EVI2A	0.89	6.45	0.00	0.00
ILMN_1804798	BEXL1	-0.81	9.16	0.00	0.00
ILMN_1705629	STEAP1	-0.81	8.58	0.00	0.00
ILMN_1708619	SEH1L	-0.82	7.50	0.00	0.00
ILMN_1689456	ZBTB20	0.81	7.59	0.00	0.00
ILMN_1678805	POMT2	-0.79	7.31	0.00	0.00
ILMN_1741985	BBS10	-0.82	6.39	0.00	0.00
ILMN_2181968	CBL	-0.88	7.07	0.00	0.00

ILMN_2077550	RACGAP1	-0.83	9.33	0.00	0.00
ILMN_2149766	APPBP2	-0.87	8.67	0.00	0.00
ILMN_1754489	FBXL20	-0.79	8.08	0.00	0.00
ILMN_1733176	LIMS1	-0.79	10.79	0.00	0.00
ILMN_2376133	KIAA1191	-0.85	8.98	0.00	0.00
ILMN_1855278		-0.87	7.31	0.00	0.00
ILMN_1653871	NAMPT	-0.93	9.48	0.00	0.00
ILMN_1751276	BDNF	-0.79	8.45	0.00	0.00
ILMN_1691809	PSMA1	-0.77	9.33	0.00	0.00
ILMN_1737398	PTPLAD1	-0.79	11.09	0.00	0.00
ILMN_2052208	GADD45A	0.78	9.67	0.00	0.00
ILMN_1761281	LOC441019	-0.79	10.31	0.00	0.00
ILMN_1776297	GOLGA4	0.78	8.10	0.00	0.00
ILMN_2383383	PIR	0.78	8.64	0.00	0.00
ILMN_1738552	SLC1A3	0.87	9.14	0.00	0.00
ILMN_1775829	PERP	-0.89	7.27	0.00	0.00
ILMN_3251672	DSG2	-0.81	10.06	0.00	0.00
ILMN_2347068	MKNK2	0.76	10.74	0.00	0.00
ILMN_1808059	BCAS4	-0.78	8.35	0.00	0.00
ILMN_2413898	MCM10	-0.83	8.16	0.00	0.00
ILMN_3243682	C1orf93	-0.82	6.94	0.00	0.00
ILMN_1668507	DDAH1	-0.89	6.33	0.00	0.00
ILMN_1714741	LOC346887	-0.82	9.77	0.00	0.00
ILMN_1732296	ID3	1.23	10.83	0.00	0.00
ILMN_2344662	HMGA2	-0.77	8.74	0.00	0.00
ILMN_1806787	CSDC2	0.84	6.60	0.00	0.00
ILMN_2355033	KIAA1147	0.77	9.75	0.00	0.00
ILMN_1793616	RNF38	0.85	8.75	0.00	0.00
ILMN_1678968	GEM	-0.87	7.14	0.00	0.00
ILMN_1744381	SERPINE1	-1.10	10.53	0.00	0.00
ILMN_2357134	SPHK1	-0.91	9.55	0.00	0.00
ILMN_2395139	SERPINB7	-0.99	7.65	0.00	0.00
ILMN_1709479	YAP1	-0.92	8.24	0.00	0.00
ILMN_3248906	ZC4H2	-0.75	6.56	0.00	0.00
ILMN_2373763	CASP7	-0.78	6.81	0.00	0.00
ILMN_1813775	GAK	-0.75	9.80	0.00	0.00
ILMN_1670895	ZNF207	-0.77	10.29	0.00	0.00
ILMN_1757338	PLSCR4	0.82	7.02	0.00	0.00
ILMN_2296950	APOBEC3F	0.78	7.45	0.00	0.00
ILMN_1852022	KIAA1881	0.78	5.95	0.00	0.00
ILMN_1720373	SLC7A5	-0.98	7.74	0.00	0.00
ILMN_1794875	AGPAT9	-0.92	9.12	0.00	0.00
ILMN_3245143	CCDC19	-0.78	6.39	0.00	0.00
ILMN_1788547	GCLM	-0.76	8.98	0.00	0.00
ILMN_1658407	SLC43A3	-0.75	9.56	0.00	0.00
ILMN_1747183	GXYLT1	0.79	8.88	0.00	0.00
ILMN_1798360	CXCR7	0.87	6.20	0.00	0.00
ILMN_2124585	GREM1	-0.99	6.20	0.00	0.00
ILMN_1657435	MT1M	-0.95	7.53	0.00	0.00
ILMN_1766169	BCAT1	-0.80	9.31	0.00	0.00
ILMN_3256325	CYB561D1	0.74	9.50	0.00	0.00
ILMN_2338323	CDC25B	0.78	10.20	0.00	0.00
ILMN_1763433	TRIM9	-0.77	7.06	0.00	0.00
ILMN_1788416	FAM108C1	-0.83	8.31	0.00	0.00
ILMN_1675848	MYL12A	-0.79	12.11	0.00	0.00
ILMN_2309534	RDM1	0.87	8.76	0.00	0.00
ILMN_1792671	C12orf29	-0.85	7.34	0.00	0.00
ILMN_2330371	TATDN3	-0.85	8.25	0.00	0.00
ILMN_1790317	RAB26	0.76	6.27	0.00	0.00
ILMN_1689800	MRTO4	-0.79	8.53	0.00	0.00
ILMN_2325506	BCAS4	-0.81	8.49	0.00	0.00
ILMN_1738632	PRKAR1A	-0.76	11.09	0.00	0.00
ILMN_3297455	LOC729082	0.74	9.10	0.00	0.00
ILMN_1767691	VPS25	-0.76	8.75	0.00	0.00
ILMN_1915076		0.77	9.48	0.00	0.00
ILMN_1669905	DCP2	0.92	8.40	0.00	0.00
ILMN_2112638	SVEP1	-0.73	6.84	0.00	0.00
ILMN_3307944	PHLDB3	0.97	6.08	0.00	0.00
ILMN_1769245	GLIPR1	-0.74	9.35	0.00	0.00
ILMN_1770085	BTG2	0.77	6.48	0.00	0.00
ILMN_1786050	RBBP9	-0.77	7.27	0.00	0.00
ILMN_2290118	MEGF9	0.76	6.80	0.00	0.00
ILMN_1657111	C14orf78	0.74	11.65	0.00	0.00
ILMN_1771179	CYB561	-0.75	7.87	0.00	0.00
ILMN_2340908	SCML1	0.76	7.50	0.00	0.00
ILMN_1740523	KTN1	-0.95	7.11	0.00	0.00
ILMN_1810147	ZNF524	0.76	7.90	0.00	0.00
ILMN_1787509	PRIC285	0.74	8.93	0.00	0.00
ILMN_2267914	CD68	-1.16	8.65	0.00	0.01
ILMN_1736585	TMED10	-0.83	8.66	0.00	0.01
ILMN_1778177	ZNF207	-0.75	10.59	0.00	0.01
ILMN_1800160	NR0B1	0.74	9.47	0.00	0.01
ILMN_1728445	IGFBP1	-0.92	6.31	0.00	0.01
ILMN_2184373	IL8	-1.09	10.44	0.00	0.01
ILMN_1730816	GPR162	1.05	8.05	0.00	0.01
ILMN_1691508	PLAUR	-0.75	9.54	0.00	0.01

ILMN_1666156	MORF4L2	-0.74	11.42	0.00	0.01
ILMN_1729288	C1QTNF6	0.86	6.85	0.00	0.01
ILMN_1674243	TFRC	-0.72	11.92	0.00	0.01
ILMN_1803124	BIRC5	-0.74	6.63	0.00	0.01
ILMN_3253471	KLHL29	-0.74	6.59	0.00	0.01
ILMN_1721128	TOMM34	-0.74	12.08	0.00	0.01
ILMN_3238058	LOC151162	-0.74	9.55	0.00	0.01
ILMN_2311537	HMGA1	-0.74	10.28	0.00	0.01
ILMN_2415911	ENOX2	-0.79	7.43	0.00	0.01
ILMN_1756308	NAE1	-0.76	6.00	0.00	0.01
ILMN_1680367	C10orf90	-0.77	9.68	0.00	0.01
ILMN_2388070	TMEM44	-0.74	8.40	0.00	0.01
ILMN_1735432	ISCU	0.73	9.27	0.00	0.01
ILMN_3307877	C21orf58	0.80	10.04	0.00	0.01
ILMN_1722811	CDKN1B	0.71	8.41	0.00	0.01
ILMN_1748124	TSC22D3	-0.75	7.27	0.00	0.01
ILMN_1713124	AKR1C3	1.01	10.59	0.00	0.01
ILMN_1728923	F2RL2	-0.70	5.78	0.00	0.01
ILMN_1713178	FAM116A	-0.72	7.63	0.00	0.01
ILMN_1757872	DKFZp761P0423	0.73	7.43	0.00	0.01
ILMN_1725485	RGS17	-0.73	9.25	0.00	0.01
ILMN_1837428		-0.75	10.30	0.00	0.01
ILMN_1711120	ARC	-0.70	6.73	0.00	0.01
ILMN_1745887	FBXO21	0.73	9.73	0.00	0.01
ILMN_1680139	MAFF	-0.71	6.45	0.00	0.01
ILMN_1714861	CD68	-0.77	12.08	0.00	0.01
ILMN_1791912	SIDT2	0.72	7.99	0.00	0.01
ILMN_2289924	TRAK1	0.72	8.26	0.00	0.01
ILMN_1773337	DKK1	-0.84	7.73	0.00	0.01
ILMN_2221564	LYAR	-0.79	8.79	0.00	0.01
ILMN_1713807	MAN1C1	0.84	9.10	0.00	0.01
ILMN_1793263	C1orf94	-0.69	10.98	0.00	0.01
ILMN_2096405	WDR37	-0.69	8.32	0.00	0.01
ILMN_2049766	NFE2L3	-0.75	6.28	0.00	0.01
ILMN_1699703	ARCN1	-0.80	9.64	0.00	0.01
ILMN_1670638	PITPNC1	-0.74	8.45	0.00	0.01
ILMN_1705032	SEH1L	-0.71	6.47	0.00	0.01
ILMN_2412384	CCNE2	0.84	8.80	0.00	0.01
ILMN_1743219	CA11	0.70	7.05	0.00	0.01
ILMN_1704418	FOXD1	-0.69	9.98	0.00	0.01
ILMN_1786021	PRKAB2	0.71	7.39	0.00	0.01
ILMN_1671703	ACTA2	0.69	11.40	0.00	0.01
ILMN_2186482	TMED7	-0.90	8.90	0.00	0.01
ILMN_2372413	BID	-0.75	7.73	0.00	0.01
ILMN_1738725	LIF	-0.78	6.37	0.00	0.01
ILMN_1710514	BCL3	0.68	8.84	0.00	0.01
ILMN_2189371	NTNG1	-0.71	7.00	0.00	0.01
ILMN_2384181	DHRS9	-0.70	6.45	0.00	0.01
ILMN_1770228	KRT34	-0.74	6.20	0.00	0.01
ILMN_1663257	ATP6V1C1	-0.79	6.37	0.00	0.01
ILMN_3242105	LOC100134073	0.82	8.01	0.00	0.01
ILMN_1716766	CEBPG	-0.74	8.06	0.00	0.01
ILMN_1709634	CMBL	0.70	9.70	0.00	0.01
ILMN_2174127	DCBLD2	-0.75	12.78	0.00	0.01
ILMN_2044293	KBTBD7	0.73	7.22	0.00	0.01
ILMN_1803686	ADA	0.87	10.76	0.00	0.01
ILMN_3301824	TSEN15	-0.79	7.56	0.00	0.01
ILMN_1659027	SLC2A1	-0.81	9.37	0.00	0.01
ILMN_1651950	TPST1	-0.68	8.68	0.00	0.01
ILMN_3246060	LOC654433	-0.83	9.25	0.00	0.01
ILMN_1704972	TRIM5	0.72	8.78	0.00	0.01
ILMN_2342033	F11R	-0.73	7.32	0.00	0.01
ILMN_2399036	SEPN1	-0.78	8.48	0.00	0.01
ILMN_2058070	NEDD8	-0.70	12.63	0.00	0.01
ILMN_1706246	CCT5	-0.72	8.27	0.00	0.01
ILMN_1748309	LOC645367	0.73	7.24	0.00	0.01
ILMN_1738554	LOC647346	-0.71	8.51	0.00	0.01
ILMN_1801205	GPNMB	0.74	11.91	0.00	0.01
ILMN_1802615	CDK6	0.83	8.68	0.00	0.01
ILMN_2404625	LAT	-0.73	8.82	0.00	0.01
ILMN_1716089	KANK2	0.67	8.53	0.00	0.01
ILMN_2370208	CMTM3	-0.76	7.98	0.00	0.01
ILMN_1754716	HAS1	-0.72	6.39	0.00	0.01
ILMN_1790533	PHACTR2	-0.75	7.12	0.00	0.01
ILMN_1809931	NDRG1	-1.15	11.01	0.00	0.01
ILMN_1698243	C1orf85	0.68	11.09	0.00	0.01
ILMN_1745992	C8orf30A	-0.67	5.74	0.00	0.01
ILMN_1764629	SLC39A14	-0.68	9.24	0.00	0.01
ILMN_1859657		0.67	6.44	0.00	0.01
ILMN_1651347	SERTAD2	-0.68	10.50	0.00	0.01
ILMN_1734486	C1orf19	-0.68	9.25	0.00	0.01
ILMN_1773567	LAMA5	1.05	8.48	0.00	0.01
ILMN_1674402	TMEM71	-0.71	7.15	0.00	0.01
ILMN_1807767	KIAA0182	0.68	7.59	0.00	0.01
ILMN_1783448	DYNC1LI2	-0.69	10.65	0.00	0.01
ILMN_2139100	SHISA5	-0.67	10.61	0.00	0.01

ILMN_2374352	DBNDD1	0.70	8.01	0.00	0.01
ILMN_1704196	DSG2	-0.67	7.35	0.00	0.01
ILMN_2094061	IMPA2	0.67	10.36	0.00	0.01
ILMN_1684694	ANK1	0.70	6.55	0.00	0.01
ILMN_1713751	ADAM19	0.75	9.51	0.00	0.01
ILMN_1709725	FLJ16165	-0.67	6.59	0.00	0.01
ILMN_1691946	FAM173B	-0.71	7.39	0.00	0.01
ILMN_1805535	VRK3	-0.69	7.27	0.00	0.01
ILMN_1652434	MTHFD2L	-0.68	7.90	0.00	0.01
ILMN_1683065	C2orf64	-0.70	8.83	0.00	0.01
ILMN_1796962	PPP3R1	-0.76	9.37	0.00	0.01
ILMN_1882590		-0.76	7.05	0.00	0.01
ILMN_1795937	VIL2	-0.69	10.30	0.00	0.01
ILMN_1678678	SLC37A4	0.70	8.64	0.00	0.01
ILMN_1698019	LGMN	0.66	8.52	0.00	0.01
ILMN_1745282	RAGE	-0.85	9.12	0.00	0.01
ILMN_1742461	UAP1	-0.67	8.51	0.00	0.01
ILMN_1735552	KIF1B	0.67	9.10	0.00	0.01
ILMN_2068104	TFPI2	-0.93	9.31	0.00	0.01
ILMN_1684771	PGRMC1	-0.67	11.59	0.00	0.01
ILMN_2161357	C6orf111	0.65	8.67	0.00	0.01
ILMN_1735499	DCBLD2	-0.77	12.02	0.00	0.01
ILMN_1759097	MLLT11	-0.70	11.20	0.00	0.01
ILMN_2122103	ETS1	0.76	8.26	0.00	0.01
ILMN_1756541	MXD4	0.67	9.11	0.00	0.01
ILMN_1708502	AFF4	-0.77	8.54	0.00	0.01
ILMN_1712707	ABHD8	0.66	9.12	0.00	0.01
ILMN_1676600	SEC24C	-0.69	10.45	0.00	0.01
ILMN_1749432	MRPL32	-0.66	9.90	0.00	0.01
ILMN_1790136	C20orf20	-0.68	10.64	0.00	0.01
ILMN_1653115	ECH1	0.67	10.45	0.00	0.01
ILMN_1690282	CRADD	-0.68	6.97	0.00	0.01
ILMN_1770905	SHC3	-0.67	7.17	0.00	0.01
ILMN_1769520	UBE2L6	-0.74	11.82	0.00	0.01
ILMN_2098616	C5orf39	0.68	8.10	0.00	0.01
ILMN_1677200	CYFIP2	0.76	9.37	0.00	0.01
ILMN_1756417	ANKRD37	-0.67	7.41	0.00	0.01
ILMN_1659936	PPP1R15A	-0.65	10.36	0.00	0.01
ILMN_1784553	SDC2	-0.79	6.27	0.00	0.01
ILMN_1792837	CIAO1	-0.66	7.64	0.00	0.01
ILMN_1743103	SH3PXD2A	0.66	8.50	0.00	0.01
ILMN_1811363	NOVA1	0.70	7.28	0.00	0.01
ILMN_1736814	CLNS1A	-0.66	9.47	0.00	0.01
ILMN_1803559	FLJ39632	0.65	7.64	0.00	0.01
ILMN_1728742	C5orf4	0.67	6.26	0.00	0.01
ILMN_1758323	ACPP	-0.72	7.23	0.00	0.01
ILMN_1663399	TIMP4	0.65	9.57	0.00	0.01
ILMN_1718633	LRP5L	0.66	6.61	0.00	0.01
ILMN_2065299	EDEM3	-0.73	7.02	0.00	0.01
ILMN_1738816	FOXO1	0.65	7.00	0.00	0.01
ILMN_1671777	FGF13	-0.77	7.29	0.00	0.01
ILMN_1864166		-0.66	7.15	0.00	0.01
ILMN_1671142	GPR68	-0.69	7.20	0.00	0.01
ILMN_1691539	LAT	-0.65	7.93	0.00	0.01
ILMN_1757467	H1F0	0.66	8.61	0.00	0.01
ILMN_1717094	ZNF618	0.68	7.11	0.00	0.01
ILMN_1798458	KIAA1026	0.65	7.95	0.00	0.01
ILMN_1812297	CYP26B1	-0.72	6.79	0.00	0.01
ILMN_1893555		-0.72	7.73	0.00	0.01
ILMN_2266948	SLC38A1	-0.67	7.14	0.00	0.01
ILMN_1786766	SNTB2	-0.71	7.51	0.00	0.01
ILMN_1715555	DBP	0.77	6.68	0.00	0.01
ILMN_1720623	SYTL3	-0.63	6.69	0.00	0.01
ILMN_1758213	GPAM	-0.68	7.31	0.00	0.01
ILMN_1725346	SNAPC1	-0.81	7.32	0.00	0.01
ILMN_1658835	CAV2	-0.65	7.47	0.00	0.01
ILMN_2166686	NUFIP1	-0.68	6.37	0.00	0.01
ILMN_1813704	KIAA1199	0.94	7.51	0.00	0.01
ILMN_1813625	TRIM25	0.65	8.60	0.00	0.01
ILMN_1754795	FAT1	0.63	7.51	0.00	0.02
ILMN_1701613	RARRES3	1.01	7.58	0.00	0.02
ILMN_1763386	BID	-0.70	8.93	0.00	0.02
ILMN_1730809	SLC29A2	0.73	6.96	0.00	0.02
ILMN_1705114	NUMB	-0.65	9.27	0.00	0.02
ILMN_1702140	RACGAP1	-0.70	6.97	0.00	0.02
ILMN_1796497	PIP3-E	-0.65	6.60	0.00	0.02
ILMN_1719286	CTSA	0.72	11.66	0.00	0.02
ILMN_1798061	ZFYVE26	0.63	9.10	0.00	0.02
ILMN_1715384	B3GNT6	-0.65	8.75	0.00	0.02
ILMN_1668865	SLC2A14	-0.64	6.29	0.00	0.02
ILMN_1689828	DMPK	0.68	6.78	0.00	0.02
ILMN_1683148	PRICKLE2	-0.64	8.82	0.00	0.02
ILMN_2402629	METTL9	-0.89	6.40	0.00	0.02
ILMN_1769264	MCCC2	-0.75	6.26	0.00	0.02
ILMN_1740772	APBB3	0.66	9.77	0.00	0.02
ILMN_1738589	MGLL	-0.66	8.15	0.00	0.02

ILMN_1760890	SEPN1	-0.91	9.12	0.00	0.02
ILMN_1792660	CAMSAP1L1	-0.65	8.17	0.00	0.02
ILMN_1724658	BNIP3	-0.89	11.94	0.00	0.02
ILMN_1760303	PIK3R1	0.69	7.63	0.00	0.02
ILMN_1677292	C5orf30	-0.63	6.88	0.00	0.02
ILMN_2380243	SMAGP	-0.68	8.02	0.00	0.02
ILMN_1739335	LOC400948	-0.75	11.68	0.00	0.02
ILMN_1756312	SEMA7A	-0.63	6.59	0.00	0.02
ILMN_1753135	ALK	0.72	6.22	0.00	0.02
ILMN_2348403	VRK3	-0.62	7.04	0.00	0.02
ILMN_1721344	MOBKL2A	-0.71	7.72	0.00	0.02
ILMN_3251550	PHLDA1	-0.79	8.05	0.00	0.02
ILMN_2369603	CPEB1	-0.66	8.59	0.00	0.02
ILMN_1791147	YPEL3	0.62	7.64	0.00	0.02
ILMN_1785424	ABLIM1	0.62	6.46	0.00	0.02
ILMN_1783840	FLJ42986	-0.81	6.14	0.00	0.02
ILMN_1750079	PURB	-0.66	9.05	0.00	0.02
ILMN_2231911	AUH	0.68	7.85	0.00	0.02
ILMN_2153495	WNT7B	-0.65	8.09	0.00	0.02
ILMN_1718718	MKKS	-0.63	8.12	0.00	0.02
ILMN_3251132	TMOD2	-0.62	6.24	0.00	0.02
ILMN_1738342	METT5D1	-0.62	7.64	0.00	0.02
ILMN_1845086		0.71	7.00	0.00	0.02
ILMN_2151579	HMGN1	-0.62	12.21	0.00	0.02
ILMN_1807515	CSTF2T	-0.65	6.93	0.00	0.02
ILMN_1767658	RRS1	-0.63	9.08	0.00	0.02
ILMN_1672728	KCTD5	-0.61	9.35	0.00	0.02
ILMN_1809417	LRFN4	0.61	8.14	0.00	0.02
ILMN_3238326	RNF144A	-0.61	7.87	0.00	0.02
ILMN_1789991	MARCH4	-1.03	7.67	0.00	0.02
ILMN_1754864	SLC25A18	0.76	7.04	0.00	0.02
ILMN_1708778	ASS1	0.63	8.57	0.00	0.02
ILMN_2276933	GDAP1	-0.67	6.32	0.00	0.02
ILMN_1765401	RRN3	-0.61	8.26	0.00	0.02
ILMN_2367428	FAM96A	-0.65	9.93	0.00	0.02
ILMN_1761247	PIR	0.61	9.42	0.00	0.02
ILMN_1680129	NSUN2	-0.60	10.73	0.00	0.02
ILMN_1748283	PIM2	0.63	7.69	0.00	0.02
ILMN_1729832	LOC653994	-0.61	7.24	0.00	0.02
ILMN_1808354	SLC4A7	-0.68	6.91	0.00	0.02
ILMN_3240222	PRAGMIN	0.62	8.11	0.00	0.02
ILMN_1755303	ZNF217	0.61	9.06	0.00	0.02
ILMN_2228044	TBC1D23	-0.62	8.17	0.00	0.02
ILMN_1803691	ARTN	0.62	6.45	0.00	0.02
ILMN_2351029	MTMR2	-0.62	6.32	0.00	0.02
ILMN_1699489	TUBB6	-0.60	11.18	0.00	0.02
ILMN_1733864	SLC35F4	-0.61	6.23	0.00	0.02
ILMN_1716687	TPM1	-0.64	10.94	0.00	0.02
ILMN_3306730	RBM47	-0.61	7.10	0.00	0.02
ILMN_1708151	LAGE3	0.61	11.03	0.00	0.02
ILMN_2115125	CTGF	-0.62	7.41	0.00	0.02
ILMN_2217630	CDKL3	-0.64	6.63	0.00	0.02
ILMN_1675266	NAGPA	0.60	7.82	0.00	0.02
ILMN_1747227	ADORA1	0.61	8.65	0.00	0.02
ILMN_2188862	GDF15	0.91	9.33	0.00	0.02
ILMN_1793203	SMCR7L	-0.61	8.09	0.00	0.02
ILMN_3294741	LOC644496	-0.60	6.77	0.00	0.02
ILMN_1708414	GNL3L	-0.63	9.07	0.00	0.02
ILMN_1717180	MTMR6	-0.63	7.11	0.00	0.02
ILMN_1748481	TMEM199	-0.67	8.27	0.00	0.02
ILMN_1690352	ADO	-0.71	8.93	0.00	0.02
ILMN_1904023		0.61	5.69	0.00	0.02
ILMN_1730906	FILIP1L	-0.65	6.00	0.00	0.02
ILMN_2413158	PODXL	-0.61	7.46	0.00	0.02
ILMN_1666733	IL8	-1.19	9.15	0.00	0.02
ILMN_1759513	RND3	-0.73	11.96	0.00	0.02
ILMN_3271179	LOC100128775	-0.62	6.67	0.00	0.02
ILMN_1755620	IER5L	0.60	7.49	0.00	0.02
ILMN_1768110	ZAK	-0.69	11.53	0.00	0.02
ILMN_1815086	NINJ1	0.61	10.09	0.00	0.02
ILMN_1702636	TUBB6	-0.62	10.96	0.00	0.02
ILMN_1698803	ZAK	-0.61	9.72	0.00	0.02
ILMN_2057573	FAM62B	-0.60	11.00	0.00	0.02
ILMN_1766797	CCS	0.60	8.49	0.00	0.02
ILMN_1803743	LOC196752	0.62	7.28	0.00	0.02
ILMN_3247452	LOC100128731	-0.69	12.16	0.00	0.02
ILMN_3246538	LOC100133866	-0.77	8.69	0.00	0.02
ILMN_1677511	PTGS2	-0.65	6.44	0.00	0.02
ILMN_2364110	GBA	0.60	10.34	0.00	0.02
ILMN_1692272	TEX261	-0.62	8.09	0.00	0.02
ILMN_2273882	RNF38	0.68	5.74	0.00	0.02
ILMN_3251415	RBM43	0.59	7.60	0.00	0.02
ILMN_3242459	DCTPP1	-0.60	11.34	0.00	0.02
ILMN_1758034	ETFDH	0.61	8.22	0.00	0.02
ILMN_2186061	PFKFB3	-0.64	10.03	0.00	0.02
ILMN_1757387	UCHL1	-0.60	12.02	0.00	0.02

ILMN_1673275	TRAPPC2	0.63	8.51	0.00	0.02
ILMN_1732468	HSPA4L	0.61	6.93	0.00	0.02
ILMN_1784602	CDKN1A	0.76	12.63	0.00	0.02
ILMN_1716446	BCL10	-0.58	6.27	0.00	0.02
ILMN_1694075	GADD45A	0.63	8.79	0.00	0.02
ILMN_1751656	KLF11	-0.70	7.56	0.00	0.02
ILMN_1702198	LOC643790	-0.59	7.33	0.00	0.02
ILMN_3255029	LOC100130887	-0.60	6.45	0.00	0.02
ILMN_1761941	C4orf18	0.61	6.04	0.00	0.02
ILMN_2267365	C11orf17	-0.58	5.89	0.00	0.02
ILMN_2102960	KIAA1370	0.65	7.05	0.00	0.02
ILMN_2151281	GABARAPL1	0.59	8.52	0.00	0.02
ILMN_1798123	ELOVL1	-0.64	8.31	0.00	0.02
ILMN_3272378	EZR	-0.61	10.96	0.00	0.03
ILMN_1679322	SH2D4A	-0.58	7.95	0.00	0.03
ILMN_1723962	LXN	0.67	9.02	0.00	0.03
ILMN_1736568	CASP2	-0.59	7.71	0.00	0.03
ILMN_1652445	RAC1	-0.60	6.64	0.00	0.03
ILMN_1709032	FYCO1	-0.77	8.29	0.00	0.03
ILMN_1655913	NUCB2	0.61	9.01	0.00	0.03
ILMN_1692511	TMEM106C	0.61	10.61	0.00	0.03
ILMN_1906110		-0.59	7.10	0.00	0.03
ILMN_1805063	GSG1	-0.60	5.85	0.00	0.03
ILMN_1656628	WDR4	-0.61	9.13	0.00	0.03
ILMN_1726913	RBPJ	-0.58	5.61	0.00	0.03
ILMN_1800575	LOC649260	-0.58	6.80	0.00	0.03
ILMN_1678655	PNLIPRP3	-0.68	9.03	0.00	0.03
ILMN_1768127	EBNA1BP2	-0.58	11.60	0.00	0.03
ILMN_1684045	CDCA4	0.61	9.39	0.00	0.03
ILMN_3243899	C8orf83	-0.63	6.63	0.00	0.03
ILMN_1785618	SMTN	-0.65	7.66	0.00	0.03
ILMN_1727001	DDX46	-0.60	8.23	0.00	0.03
ILMN_3228585	LOC728661	0.58	9.04	0.00	0.03
ILMN_1850238		0.59	6.72	0.00	0.03
ILMN_1742031	IFRD2	-0.57	7.89	0.00	0.03
ILMN_1658290	C16orf68	-0.59	8.23	0.00	0.03
ILMN_1683215	ZBED3	0.74	6.89	0.00	0.03
ILMN_1708660	RWDD4A	-0.59	8.24	0.00	0.03
ILMN_1900661		0.68	8.54	0.00	0.03
ILMN_2343048	ABCB9	0.60	9.22	0.00	0.03
ILMN_2354478	CYFIP2	0.60	6.81	0.00	0.03
ILMN_2331266	NUMB	-0.59	10.85	0.00	0.03
ILMN_1721770	PAPPA	-0.58	9.65	0.00	0.03
ILMN_1758067	RGS4	-0.64	7.04	0.00	0.03
ILMN_2308849	MYADM	-0.93	10.01	0.00	0.03
ILMN_2320906	RTN3	-0.59	8.34	0.00	0.03
ILMN_1850711		0.58	5.61	0.00	0.03
ILMN_2409318	RCCD1	-0.58	6.17	0.00	0.03
ILMN_1797341	ARID1A	0.59	9.58	0.00	0.03
ILMN_1784985	PRRT3	0.66	8.23	0.00	0.03
ILMN_1723158	NOP2	-0.59	10.19	0.00	0.03
ILMN_1701403	HIP1	-0.57	6.55	0.00	0.03
ILMN_1812995	CTSL1	-0.60	13.27	0.00	0.03
ILMN_3249501	ZNF697	-0.57	7.09	0.00	0.03
ILMN_1730303	KBTBD7	0.66	6.20	0.00	0.03
ILMN_3243506	LOC100132826	-0.60	5.65	0.00	0.03
ILMN_2404665	TRIM5	0.66	8.27	0.00	0.03
ILMN_1676899	YEATS2	-0.57	8.32	0.00	0.03
ILMN_2104106	XPR1	0.58	9.48	0.00	0.03
ILMN_2075818	ZNF598	-0.57	8.56	0.00	0.03
ILMN_3274271	LOC401537	-0.79	6.28	0.00	0.03
ILMN_1695880	LOX	-0.60	9.19	0.00	0.03
ILMN_1790807	XPC	0.58	9.43	0.00	0.03
ILMN_1789732	TMEM189	-0.69	6.54	0.00	0.03
ILMN_2325337	APOL2	0.57	6.75	0.00	0.03
ILMN_1658861	FAM86B1	-0.59	6.85	0.00	0.03
ILMN_1655796	MARCH3	-0.60	7.61	0.00	0.03
ILMN_3244963	WDR42A	0.63	9.31	0.00	0.03
ILMN_1871457		0.67	7.95	0.00	0.03
ILMN_1788059	PCGF5	-0.59	6.09	0.00	0.03
ILMN_2413899	MCM10	-0.58	6.66	0.00	0.03
ILMN_2361643	RRAGB	0.61	7.41	0.00	0.03
ILMN_1669881	TSPAN13	-0.66	8.87	0.00	0.03
ILMN_1784532	COL22A1	0.58	5.37	0.00	0.03
ILMN_1685314	WNT7B	-0.57	6.38	0.00	0.03
ILMN_3247223	TPBG	-0.58	7.08	0.00	0.03
ILMN_1723171	LOC121006	0.67	5.60	0.00	0.03
ILMN_1761801	LOC147804	-0.57	6.64	0.00	0.03
ILMN_1801516	GPC1	0.56	6.87	0.00	0.03
ILMN_1746883	SAT2	0.57	10.49	0.00	0.03
ILMN_2089616	FBXO10	0.66	6.39	0.00	0.03
ILMN_1742534	COL4A5	0.62	7.75	0.00	0.03
ILMN_1656386	SEC24D	-0.57	7.58	0.00	0.03
ILMN_1697735	EWSR1	-0.62	9.85	0.00	0.03
ILMN_1857017		0.57	10.09	0.00	0.03
ILMN_1781479	SUV39H1	-0.58	9.40	0.00	0.03

ILMN_1752502	HKDC1	-0.73	7.19	0.00	0.03
ILMN_1676278	ABCC2	0.59	9.20	0.00	0.03
ILMN_1791097	RSBN1	0.59	7.59	0.00	0.03
ILMN_3246722	LOC100134259	-0.57	6.49	0.00	0.03
ILMN_1779171	SGSM2	0.57	10.36	0.00	0.03
ILMN_3221721	LOC728802	-0.66	6.26	0.00	0.03
ILMN_1797530	CHCHD5	-0.60	8.96	0.00	0.03
ILMN_1707652	KRTAP1-5	-0.59	6.08	0.00	0.03
ILMN_2378376	CYB561	-0.57	7.57	0.00	0.03
ILMN_1801616	EMP1	-0.64	11.92	0.00	0.03
ILMN_2323526	WAC	-0.58	9.00	0.00	0.03
ILMN_1752728	FUCA1	0.60	8.27	0.00	0.03
ILMN_1742782	BAT4	-0.61	6.73	0.00	0.03
ILMN_1707975	SERPIND1	-0.68	6.01	0.00	0.03
ILMN_1657701	TMEM137	0.65	7.93	0.00	0.03
ILMN_1695290	FERMT2	-0.57	9.34	0.00	0.03
ILMN_1710303	TTC25	-0.56	7.38	0.00	0.03
ILMN_2184612	C3orf52	-0.58	6.52	0.00	0.03
ILMN_1784459	MMP3	-0.92	11.92	0.00	0.03
ILMN_1785711	NEDD8	-0.56	8.55	0.00	0.03
ILMN_1737413	MSH2	-0.57	6.70	0.00	0.03
ILMN_1737988	PRNP	-0.57	11.43	0.00	0.03
ILMN_2297626	PEG10	0.57	8.23	0.00	0.03
ILMN_1758105	ZNF791	0.58	7.88	0.00	0.03
ILMN_1686920	CCDC58	-0.61	8.70	0.00	0.03
ILMN_2204940	KRT79	-0.66	6.03	0.00	0.03
ILMN_1790562	EYA3	0.64	7.80	0.00	0.03
ILMN_1803811	TRIB1	-0.58	8.31	0.00	0.03
ILMN_1829845		0.65	9.28	0.00	0.04
ILMN_1737418	ACSL6	0.56	5.88	0.00	0.04
ILMN_1768391	ARL4C	-0.64	7.59	0.00	0.04
ILMN_3180557	CYB561D1	0.57	7.46	0.00	0.04
ILMN_3236080	FAM26E	-0.56	6.10	0.00	0.04
ILMN_1706687	KLHL5	-0.56	10.04	0.00	0.04
ILMN_1808325	TM4SF19	-0.55	8.23	0.00	0.04
ILMN_1685580	CBLB	0.58	9.26	0.00	0.04
ILMN_1699829	CTGF	-0.71	8.22	0.00	0.04
ILMN_1719039	UBE2G1	-0.59	8.13	0.00	0.04
ILMN_1752351	LAMP2	-0.65	10.64	0.00	0.04
ILMN_1813399	ATP2B1	-0.61	6.17	0.00	0.04
ILMN_1737283	MGC39900	0.55	8.46	0.00	0.04
ILMN_1846026		-0.55	5.82	0.00	0.04
ILMN_1729453	TSPAN9	0.60	9.05	0.00	0.04
ILMN_3256471	FAM87A	-0.56	7.84	0.00	0.04
ILMN_1811264	C15orf57	-0.58	9.54	0.00	0.04
ILMN_1714170	SPSB1	-0.60	8.05	0.00	0.04
ILMN_1767113	AOX1	-0.67	7.83	0.00	0.04
ILMN_2327994	AZIN1	-0.62	6.95	0.00	0.04
ILMN_1664978	TJP2	-0.56	7.96	0.00	0.04
ILMN_1694757	CTSL1	-0.55	9.36	0.00	0.04
ILMN_3204933	LOC401805	-0.57	6.75	0.00	0.04
ILMN_1747162	DDX47	-0.55	9.42	0.00	0.04
ILMN_1718046	ARNT2	-0.56	6.64	0.00	0.04
ILMN_2398711	SIRT2	0.55	6.89	0.00	0.04
ILMN_3237270	LOC100133609	-0.55	7.18	0.00	0.04
ILMN_1799569	LOC440895	-0.58	6.73	0.00	0.04
ILMN_1797822	SEL1L3	-0.68	9.17	0.00	0.04
ILMN_3299558	SFRS18	0.55	8.69	0.00	0.04
ILMN_3239343	STAG3L3	0.59	8.64	0.00	0.04
ILMN_1719599	SYTL4	-0.57	7.17	0.00	0.04
ILMN_2413259	SOCS4	-0.60	8.27	0.00	0.04
ILMN_1761762	C6orf141	-0.60	8.18	0.00	0.04
ILMN_1673282	LAMP2	0.56	10.48	0.00	0.04
ILMN_2337263	PKIB	-0.74	6.70	0.00	0.04
ILMN_1707464	MST1	0.59	6.87	0.00	0.04
ILMN_1652826	LRRC17	0.63	7.49	0.00	0.04
ILMN_2325574	CASC4	-0.61	7.76	0.00	0.04
ILMN_1727778	NTNG1	-0.59	6.93	0.00	0.04
ILMN_1781373	IFIH1	0.56	6.60	0.00	0.04
ILMN_1758811	IMPA1	-0.59	8.32	0.00	0.04
ILMN_3254984	LOC100129759	-0.61	8.42	0.00	0.04
ILMN_1738579	VHL	0.55	9.78	0.00	0.04
ILMN_1657606	ZFHX4	0.56	6.15	0.00	0.04
ILMN_1692651	PHB	-0.61	9.51	0.00	0.04
ILMN_2120273	AP1S2	-0.55	9.73	0.00	0.04
ILMN_2336781	SOD2	0.55	12.07	0.00	0.04
ILMN_1737089	CAPN5	0.69	8.09	0.00	0.04
ILMN_1671054	HLA-A	0.60	9.92	0.00	0.04
ILMN_2086095	ID2	0.76	9.04	0.00	0.04
ILMN_1768097	RPGR	-0.54	7.31	0.00	0.04
ILMN_2124187	TSC22D2	0.56	9.05	0.00	0.04
ILMN_1666364	COQ10A	0.60	8.55	0.00	0.04
ILMN_1738684	NRXN2	-0.54	7.97	0.00	0.04
ILMN_1775743	BTG1	-0.56	9.64	0.00	0.04
ILMN_1654851	FAM134A	0.54	8.35	0.00	0.04
ILMN_1728914	PRUNE	-0.57	6.49	0.00	0.04

ILMN_2217289	UBE2S	0.54	5.66	0.00	0.04
ILMN_2413816	GRB14	-0.56	6.79	0.00	0.04
ILMN_2089329	SPRY2	-0.58	10.32	0.00	0.04
ILMN_1659169	LOC729919	-0.56	6.91	0.00	0.04
ILMN_1812262	DDR1	0.59	7.81	0.00	0.04
ILMN_1745116	ABHD12	-0.54	8.93	0.00	0.04
ILMN_1809889	CCDC117	0.56	8.15	0.00	0.04
ILMN_2401822	FTSJ1	-0.56	9.57	0.00	0.04
ILMN_2084836	CORO2B	-0.61	6.57	0.00	0.04
ILMN_2375002	MAP4K4	-0.59	8.08	0.00	0.04
ILMN_1701933	SNCA	0.57	6.71	0.00	0.04
ILMN_1815346	TMEM136	0.55	8.87	0.00	0.04
ILMN_1659297	FZD6	0.69	7.98	0.00	0.04
ILMN_2175447	ZNF767	0.55	6.90	0.00	0.04
ILMN_1722492	DUSP19	0.55	10.83	0.00	0.04
ILMN_1694780	GCHFR	0.56	7.06	0.00	0.04
ILMN_1716815	CEACAM1	0.56	5.78	0.00	0.04
ILMN_1765091	ANKHD1	0.53	8.11	0.00	0.04
ILMN_2329667	MYO7B	-0.59	5.74	0.00	0.04
ILMN_1803231	LOC650543	0.77	5.52	0.00	0.04
ILMN_2351638	BEX4	-0.54	7.57	0.00	0.04
ILMN_1670079	OMA1	0.55	9.24	0.00	0.04
ILMN_1808587	ZFHX3	0.55	7.63	0.00	0.04
ILMN_1815308	SDC1	-0.60	10.22	0.00	0.04
ILMN_1701134	PTEN	0.54	8.41	0.00	0.04
ILMN_2147114	PSPH	-0.53	6.78	0.00	0.04
ILMN_2363065	RTN3	-0.57	10.16	0.00	0.04
ILMN_1712577	FAM174A	-0.59	7.85	0.00	0.04
ILMN_1742731	SLC35A2	-0.53	10.02	0.00	0.04
ILMN_3251085	RBBP4	0.62	9.44	0.00	0.04
ILMN_1723768	NLRX1	0.54	7.39	0.00	0.04
ILMN_1656621	CHMP2A	0.53	8.51	0.00	0.04
ILMN_1805992	KIAA1598	0.53	8.79	0.00	0.04
ILMN_1695640	PTPN22	-0.59	6.20	0.00	0.04
ILMN_1652631	GLIPR2	0.53	9.72	0.00	0.04
ILMN_2129388	FAM190B	-0.58	7.70	0.00	0.04
ILMN_1714028	KRTAP12-3	-0.54	5.44	0.00	0.05
ILMN_3230631	NCRNA00161	-0.57	5.88	0.00	0.05
ILMN_1661637	TRPM8	-0.53	6.15	0.00	0.05
ILMN_1690464	TMEM20	0.53	7.08	0.00	0.05
ILMN_1651496	HIST1H2BD	0.54	8.37	0.00	0.05
ILMN_1746426	TOMM70A	-0.53	9.27	0.00	0.05
ILMN_1706852	CSF3	-0.54	5.41	0.00	0.05
ILMN_1804415	SMAGP	-0.55	9.30	0.00	0.05
ILMN_1668960	MID1IP1	-0.54	8.09	0.00	0.05
ILMN_1703263	SP140	-0.57	8.50	0.00	0.05
ILMN_2404385	REPIN1	0.58	11.18	0.00	0.05
ILMN_2053538	RHBDL2	0.57	7.69	0.00	0.05
ILMN_2098743	THEM2	0.54	9.35	0.00	0.05
ILMN_1721563	TMEM127	0.53	7.03	0.00	0.05
ILMN_1898691		0.61	6.36	0.00	0.05
ILMN_1812461	WISP2	1.06	8.28	0.00	0.05
ILMN_1772906	LOC652086	0.60	5.61	0.00	0.05
ILMN_1844593		-0.54	6.47	0.00	0.05
ILMN_1795128	C13orf23	0.54	8.49	0.00	0.05
ILMN_3219695	LOC441711	-0.55	6.71	0.00	0.05
ILMN_1745964	IRAK2	-0.53	8.56	0.00	0.05
ILMN_1717099	DSCR3	-0.69	9.49	0.00	0.05
ILMN_1725312	RASA1	-0.53	9.66	0.00	0.05
ILMN_1771411	ALG6	0.53	8.11	0.00	0.05
ILMN_2187058	LOC93349	-0.53	6.22	0.00	0.05
ILMN_2285817	FAM89A	-0.53	8.08	0.00	0.05
ILMN_1696270	PLAG1	0.53	7.20	0.00	0.05
ILMN_1686679	ZNF462	0.54	8.21	0.00	0.05
ILMN_1809483	HSD17B14	0.57	8.57	0.00	0.05
ILMN_1803423	ARHGEF6	-0.56	9.87	0.00	0.05
ILMN_2334587	HNRNPC	-0.53	8.82	0.00	0.05
ILMN_1672443	QDPR	0.52	10.56	0.00	0.05
ILMN_1781536	FAH	-0.53	10.08	0.00	0.05
ILMN_1692267	B4GALT3	0.53	9.39	0.00	0.05
ILMN_2290998	CCS	0.59	9.07	0.00	0.05
ILMN_1761804	ALDH9A1	0.52	12.58	0.00	0.05
ILMN_1721657	RSU1	-0.54	9.06	0.00	0.05
ILMN_1803818	NMNAT2	-0.52	9.06	0.00	0.05
ILMN_1698259	TMEM100	0.63	8.03	0.00	0.05
ILMN_1671893	CHMP2A	0.57	11.06	0.00	0.05
ILMN_1671733	LOC653184	-0.54	6.17	0.00	0.05
ILMN_1846517		0.53	8.06	0.00	0.05
ILMN_1774077	GBP2	0.57	8.24	0.00	0.05
ILMN_1775269	EID1	-0.56	6.98	0.00	0.05
ILMN_1657234	CCL20	-0.52	6.14	0.00	0.05
ILMN_2371458	CXCR7	0.58	5.74	0.00	0.05
ILMN_2299612	TMEM150A	0.59	8.57	0.00	0.05
ILMN_1723522	APOLD1	-0.54	5.74	0.00	0.05
ILMN_3289594	LOC652993	0.57	5.41	0.00	0.05
ILMN_1735930	KLF2	-0.58	8.19	0.00	0.05

SI Table S4

List of siRNA target sequences

Target Gene	siRNA target sequences 5' – 3'
BCL6	GAGAACAACCUGCCACUGA
	GUACACAUCUCGGCUCAAU
	GUCGAGACAUCUUGACUGA
	UUACAGACCAGUUGAAAUG
AXL	GAAAGAAGGAGACCCGUUA
	CCAAGAAGAUCUACAAUGG
	GGAACUGCAUGCUGAAUGA
	GAAGGAGACCCGUUAUGGA
NCoR	GAUCACAUCUGUCAAAUUA
	GAACGUGGCUCUCAAAGUU
	GAAAGGAAAUCGACACUGA
	GCCCUGGGAUUUAUGAUGA
BCoR	UCGCCAACUCAGCGGGUUA
	GAAGUGAGAUUCCGAAAGA
	GCAAAGUUCUGAAACCGAA
	CAGCCAGUCUUCACCGUAA
TP53	GAGGUUGGCUCUGACUGUA
	GCACAGAGGAAGAGAAUCU
	GAAGAAACCACUGGAUGGA
	GCUUCGAGAUGUUCCGAGA
siGENOME Non-Targeting siRNA Pool #2	UAAGGCUAUGAAGAGAUAC
	AUGUAUUGGCCUGUAUUAG
	AUGAACGUGAAUUGCUCAA
	UGGUUUACAUGUCGACUAA

SI Table S5

List of sgRNA target sequences

Vector	Target sequence
sg-BCL6-1	GCGGTATTGCACCTTGGTGT
sg-BCL6-2	GAAATCTGTGGCACCCGTTT
sg-BCL6-3	TGGGGCCGTGTAGGCTCGTG
sg-BCL6-4	GTACAGCCGGCCGACTTTGG

SI Table S6

List of miR-E based shRNA target sequences

Vector	Mouse gene	Target sequence
Bcl6.275	Bcl6	GACCAGTTGAAATGCAACCTTA
Bcl6.2673	Bcl6	ATGGCAGAGTTGTAAATATATA
Ctnnb1.1680	Ctnnb1	ACAGGGTGCTATTCCACGACTA
Nf1.789	Nf1	TCCGGATGAATTTACAAAGCTA

SI Table S7

List of reagents and antibodies

Reagent/Antibody	Company	Catalog	Application
Erlotinib	LC Laboratories	E-4007	
Gefitinib	LC Laboratories	G-4408	
Recombinant Human Gas6	R&D systems	885-GS-050	
Recombinant Human EGF	Life technologies	PHG0311L	
Temozolomide	Sigma	T2577	
Cisplatin	Sigma	P4394	
Doxycycline hyclate	Sigma	D9891	
β-ACTIN	Sigma	clone AC-15	WB
AXL	Sigma	HPA037422	WB, IHC
AXL	Cell Signaling Technology	#8661	WB
AXL	R&D systems	MAB8541	IF
BCL6	Santa Cruz	D-8	WB
BCL6	Santa Cruz	N-3	IF
BCL6	DAKO	PG-B6p	IHC
BCL6	Cell Signaling Technology	#5650	ChIP
p53	Santa Cruz	DO-1	WB
p27	Santa Cruz	C-19	WB
GAPDH	Cell Signaling Technology	#14C10	WB
pMEK1/2 (Ser217/221)	Cell Signaling Technology	#9154	WB
MET	Cell Signaling Technology	#8198	WB
EGFR	Cell Signaling Technology	#4267	WB
pEGFR (Tyr1068)	Cell Signaling Technology	#2234	WB
ROR2	Cell Signaling Technology	#88639	WB
pAXL(Tyr702)	Cell Signaling Technology	#D12B2	WB
p21	Cell Signaling Technology	#2947	WB
pErk1/2 (Thr202/Tyr204)	Cell Signaling Technology	#4370	WB
pAkt (Ser473)	Cell Signaling Technology	#4060	WB
pRPS6 (Ser235/236)	Cell Signaling Technology	#4858	WB
pS6K (Thr389)	Cell Signaling Technology	#9205	WB
peIF4E (Ser209)	Cell Signaling Technology	#9741	WB
p-P53 ser 15	Cell Signaling Technology	#9284	WB
Acetyl-p53(Lys382)	Cell Signaling Technology	#2525	WB
Cleaved Caspase-3 (Asp175)	Cell Signaling Technology	#9661	IF
NCoR	Genetex	GTX129621	WB
NCoR	Bethyl Laboratories	A301-145A	ChIP
BCoR	Abcam	ab129777	WB
GFP	Abcam	ab13970	WB, IF
HA	Covance	CovanceMMS-101R	IHC
FLAG	Sigma	F1804	WB, IF
Ki67	Vector Labs	VP-RM04	IF

SI Table S8

List of ChIP-qPCR primers

Primers	Sequence (5' – 3')
BCL6-PC-F	GCAGTGGTAAAGTCCGAAGC
BCL6-PC-R	TCCGGCCTTTCCTAGAAACT
AXL-P1-F	ATTCTGGTCTTCAGATAAGGCGTCAG
AXL-P1-R	CAGCTCATCCTCATCTCATTCTATGG
AXL-P2-F	GGAGGAGCTCACATTCTCAGCATTC
AXL-P2-R	CTCCCCTTCTCATGGGACCTG
AXL-P3-F	TACATGTCTCTTTATGAATGTACATCAGTGT
AXL-P3-R	GATTCCAGATGTGCTTTCCAGATG
AXL-P4-F	TATATGTGTGAGTCACGGTGTTTTTGTGTC
AXL-P4-R	TTCCCCTCCAGAAGGTTCTTGCTTTA
AXL-P5-F	CTGACGGAGAAAAGGAAACTTTGTGTCT
AXL-P5-R	GTTTGTGTTTCTGAGCTGGTATGTTTGTG
AXL-P6-F	AATCCACCTTCACTCGAAAACAGTTACTC
AXL-P6-R	CATAGGTGTAGAAATATGAGCATGTGTAAT

SI Table S9

List of qRT-PCR primers

Primers for qRT-PCR	Sequence (5' – 3')
GAPDH-F	GTCAGTGGTGGACCTGACCT
GAPDH-R	AGGGGTCTACATGGCAACTG
ACTB-F	GACGACATGGAGAAAATCTG
ACTB-R	ATGATCTGGGTCATCTTCTC
BCL6-F	CTCAGATTCTAGCTGTGAGAACG
BCL6-R	GTCACACTTGTAGGGTTTGTCAC
TP53-F	AATCAACCCACAGCTGCAC
TP53-R	TCTTCTGTCCCTTCCCAGAA
CDKN1B-F	AACCGACGATTCTTCTACTC
CDKN1B-R	TGTTTACGTTTGACGTCTTC
CDKN1A-F	CCTGTCACTGTCTTGTACCCT
CDKN1A-R	GCGTTTGGAGTGGTAGAAATCT
AXL-F	CATCAGACCTTCGTGTCCCA
AXL-R	GAGACCAGGTGGAGGTTACG