

Supplemental Figures.

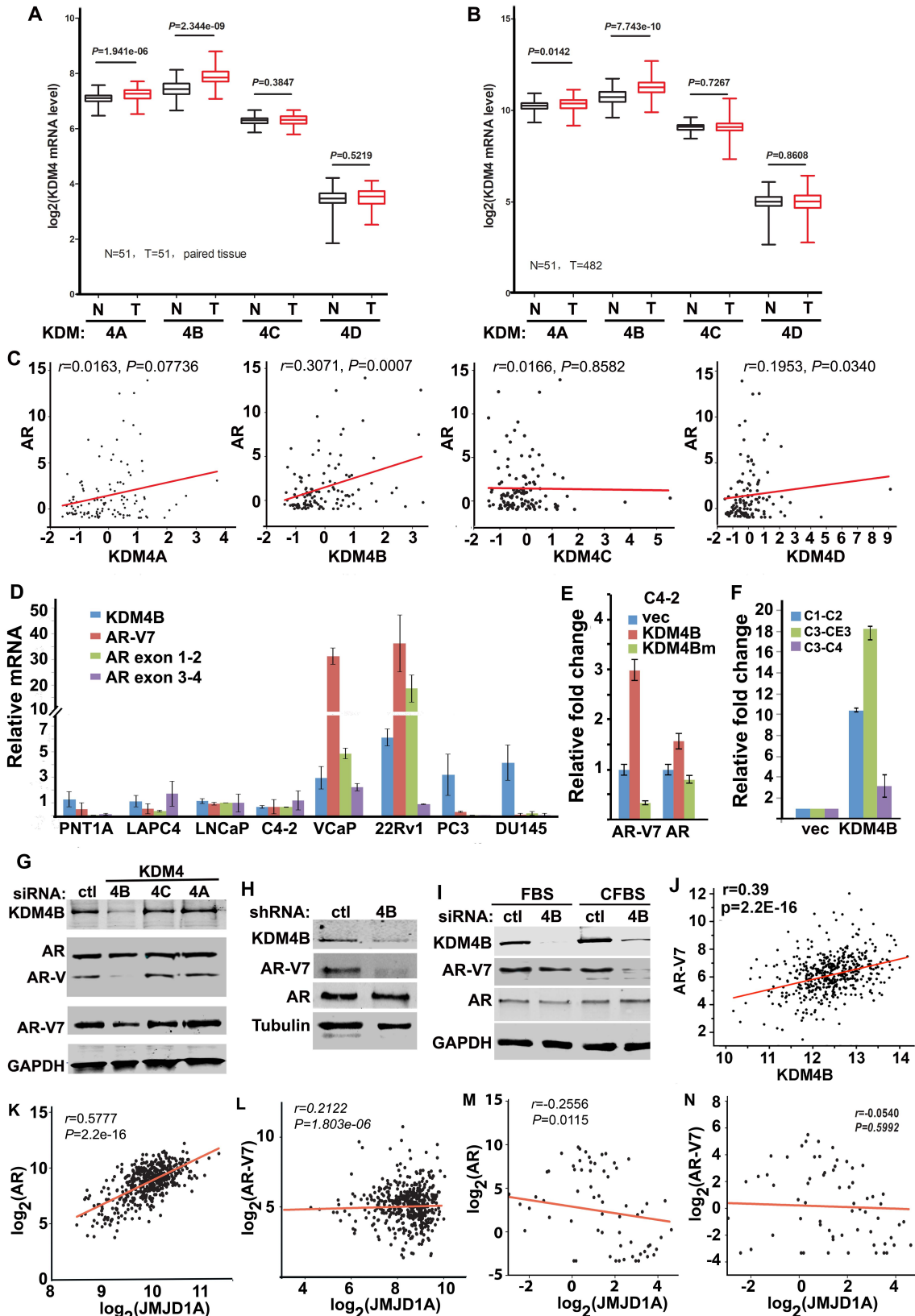


Figure S1. KDM4B promotes AR-V7 expression. (A-B) T-tests of mRNAs of KDM4 isoforms (4A-D)

between prostate tumor (T) and nearby normal tissues (N) (A) and between normal tissues and all

tumors (B). Data were taken from TCGA. (C) Spearman's correlation between z-scores of AR and KDM4 isoforms. Data is from the SU2C dataset in cBioPortal. (D) Relative mRNA of KDM4B, AR-V7, and AR in various PCa cell lines. mRNAs were normalized against internal GAPDH and expressed relative to the expression of KDM4B in PNT1A cells (n=3, mean \pm SD). (E) Relative fold change of AR-V7 and AR in C4-2 cells transfected with vector, KDM4B or KDM4Bm. mRNAs were normalized against internal GAPDH and expressed relative to vector-transfected cells (n=3, mean \pm SD). (F) Relative mRNA of AR-V7 and AR in LNCaP cells transfected with vec or KDM4B (n=3, mean \pm SD). AR-V7 was measured using the primers in exon 3 and CE3. AR mRNA was measured using primers in exons 3 and 4, and primers from exons 1 and 2. The overall AR transcription as measured by primers from C1 and C2, which give rise to AR-V7 and AR via splicing, is significantly increased in LNCaP cells transfected with KDM4B as well. Values are normalized to internal Calnexin and expressed relative to that in vector transfected cell (n=3, mean \pm SD). (G) Western blot of proteins indicated from 22Rv1 cells transfected with ctl or siRNA against KDM4A, 4B, and 4C. Anti-AR NTD antibody (N20, rabbit polyclonal, Santa Cruz, no longer in production) was used for detecting AR and AR-Vs. (H) Western blot of AR-V7 and AR in 22Rv1 cells transduced with control (ctl) or KDM4B (4B) shRNA. (I) West blot of protein indicated from 22Rv1 cells transfected with ctl or KDM4B siRNA cultured under FBS or CFBS condition. (J) Spearman's correlation between KDM4B and AR from TCGA dataset. (K, L) Spearman's correlation between JMJD1A and AR (K), JMJD1A and AR-V7 (L) from TCGA dataset. (M, N) Spearman's correlation between JMJD1A and AR (M), between JMJD1A and AR-V7 (N) from the SU2C dataset.

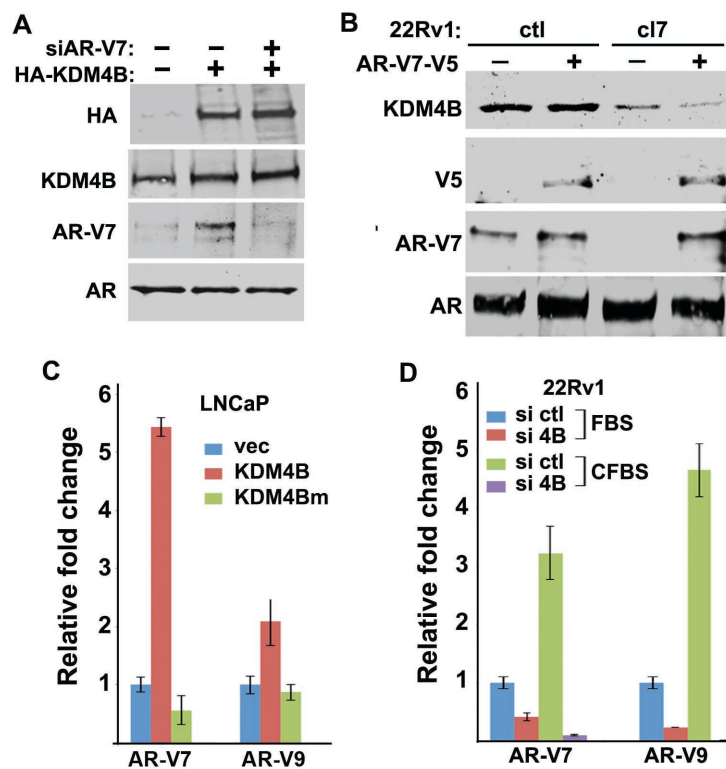


Figure S2. (A) Western blot of indicated proteins in LNCaP cells transfected with KDM4B, control or AR-V7 specific siRNA. (B) Western blot of indicated proteins in 22Rv1-ctl and KDM4B KD 22Rv1-cl7 cells transduced without or with C-terminal V5 tagged-AR-V7. (C, D) Relative mRNA of AR-V7 and AR-V9 in LNCaP cells transfected with vector, KDM4B or KDM4Bm (C) and in 22Rv1 cells transfected with control or KDM4B siRNA (D). Values are normalized against internal GAPDH and expressed relative to vector-transfected (C) or control siRNA transfected (D) cells (n=4, mean \pm SEM).

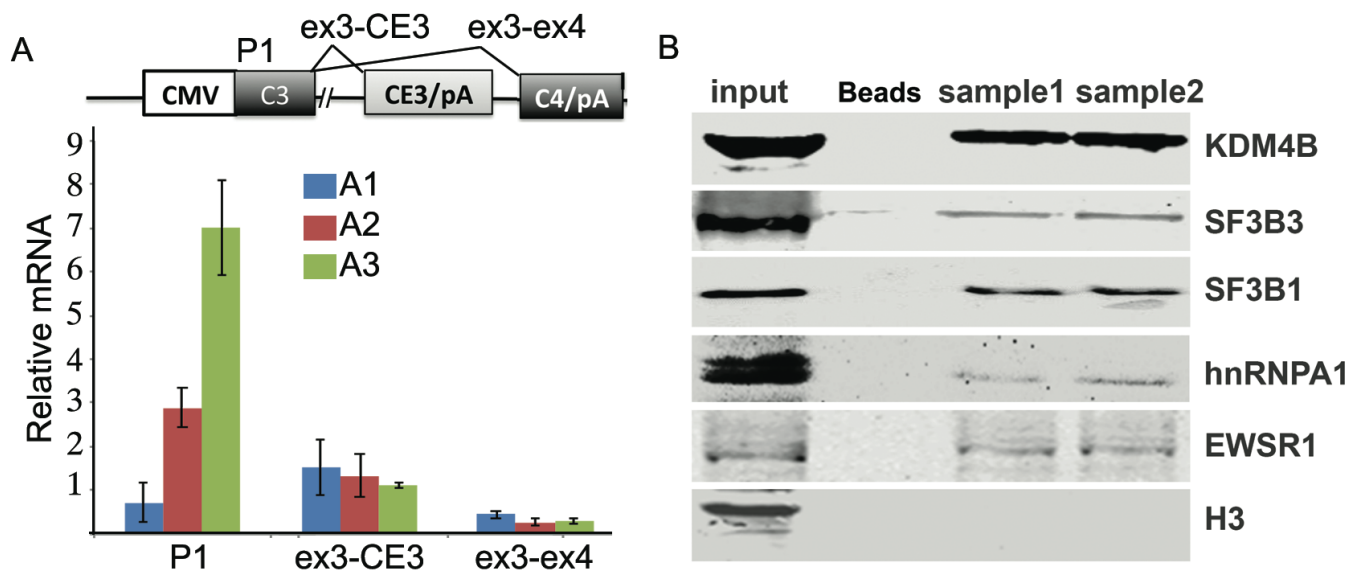


Figure S3. (A) Relative transcripts of minigenes A1, A2, and A3 in KEK294T cells. Equal amounts of minigenes were transfected into HEK293T cells with β -galactosidase. Cellular RNAs were extracted 48 hrs post-transfection and converted to cDNA. Relative mRNAs were measured with primers indicated and normalized to co-transfected β -galactosidase. (B) Western blot of proteins in biotin pulled-down complexes from 22Rv1 cells. A Biotin-labeled RNA probe containing 4BRBS (sample 1 and sample 2) was mixed with 22Rv1 cell lysates. After 4 h incubation, RNA-bound proteins were pulled down with streptavidin-beads, washed, separated on SDS-PAGE, and probed with antibodies against proteins indicated.

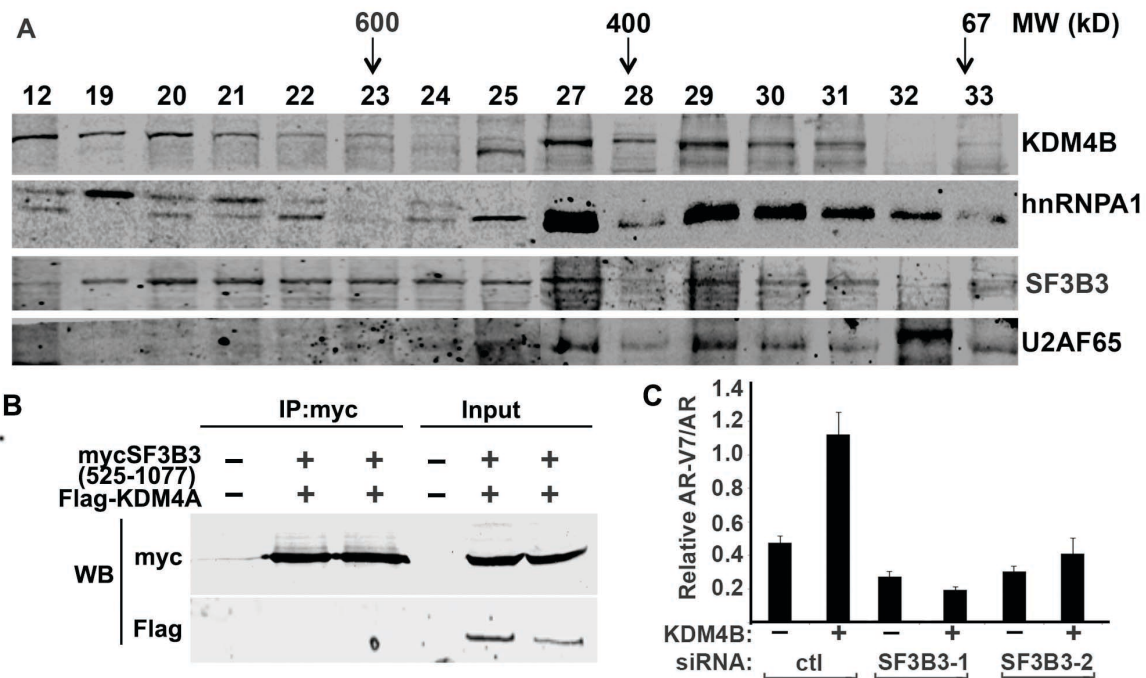


Figure S4. KDM4B is associated with the spliceosome. (A) 22Rv1 cell lysates were subjected to FPLC with a Sepharose 6 gel filtration column. Fractions were collected and subjected to Western blot analysis. The arrows mark molecular weights. Fraction numbers are marked. KDM4B co-elutes with the core components of the spliceosome SF3B3 and U2AF65. (B) 293T cells were transfected with mycSF3B3 (525-1077) and Flag-KDM4A. (C) Cell lysates were immunoprecipitated with anti-myc antibody and western blotted with anti-Flag. 293T cells were transfected with control (ctl) and SF3B3 specific siRNAs. 72 h post-transfection, cells were transfected AR-V7 minigene A1 along with or without KDM4B as indicated. Cells were harvested 48 h later and RNAs were extracted for qRT-PCR for quantification of relative AR-V7 and AR ($n=3 \pm SD$).

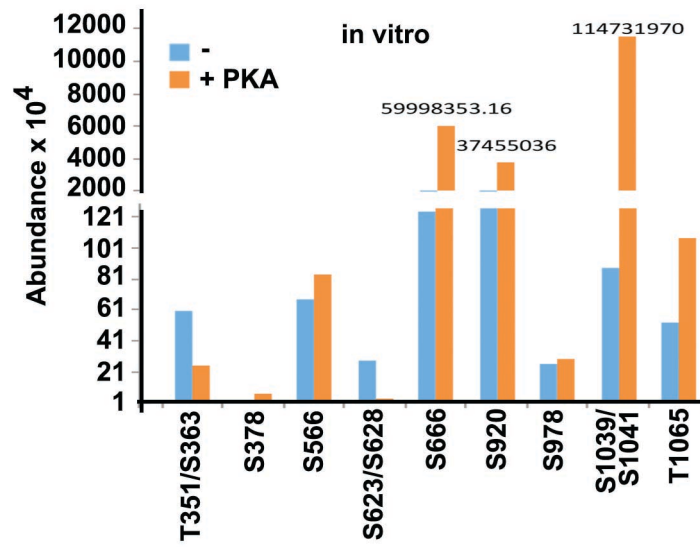


Figure S5. KDM4B is phosphorylated by PKA. Recombinant KDM4B proteins phosphorylated without or with PKA were subjected to phosphorylation analysis by MASS spectrometry.

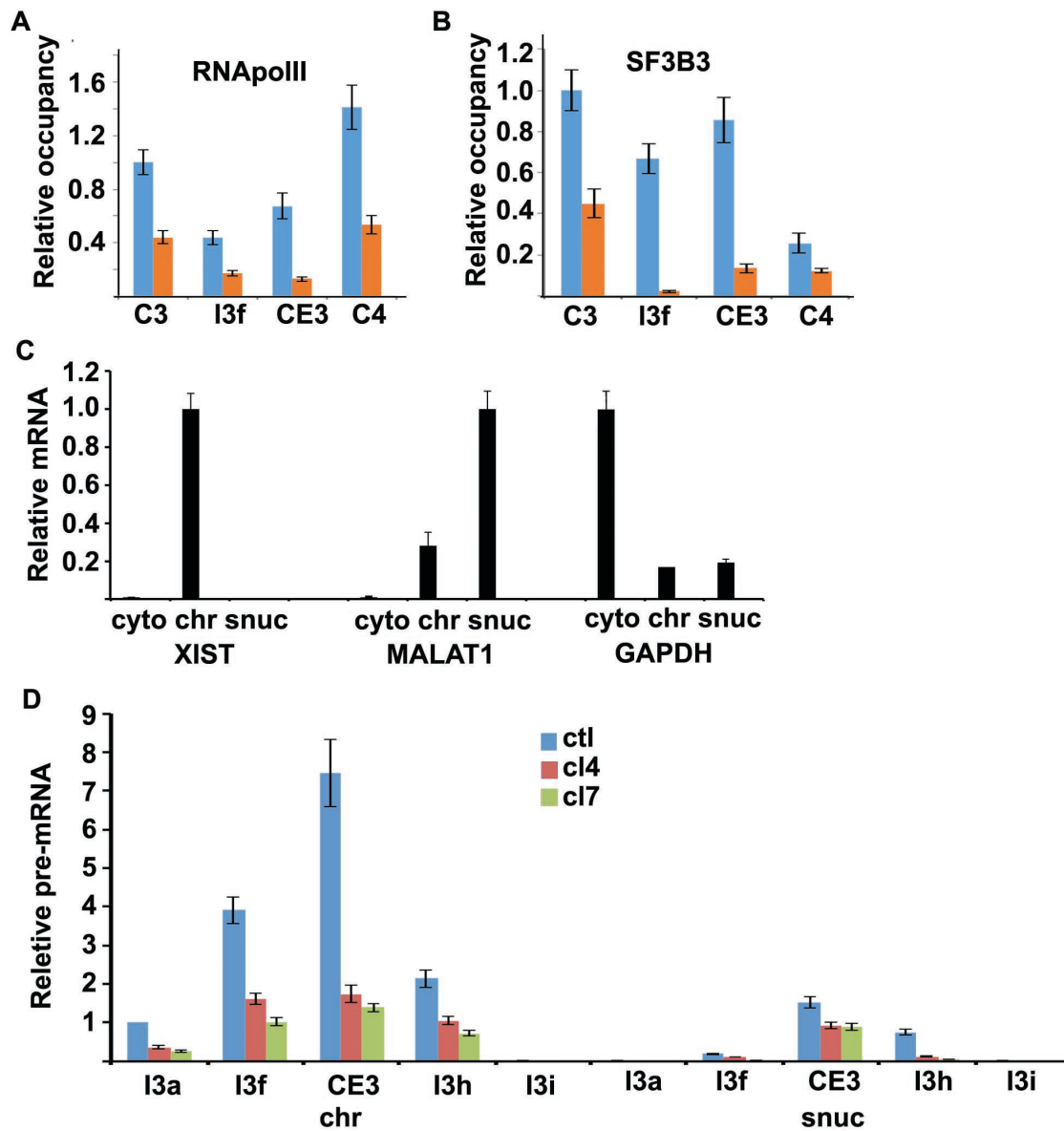


Figure S6. KDM4B binds chromatin near the CE3 region. (A-B) Relative chromatin occupancy of (A) RNApolIII and (B) SF3B3 in 22Rv1-ctl and 22Rv1-cl4 cells. KDM4B KD downregulated chromatin binding of RNApolIII and SF3B3 in the CE3 region. (C) Relative expression of XIST, MALAT1, and GAPDH in chromatin, soluble nuclear, and cytosol fraction of 22Rv1 cells assayed by qRT-PCR. (D) Relative pre-mRNA near CE3 of AR in chromatin and soluble nuclear fractions of control and KDM4B KD 22Rv1 cells. The PCR primer pairs used are pictured below the graph. n=3, mean \pm SD.

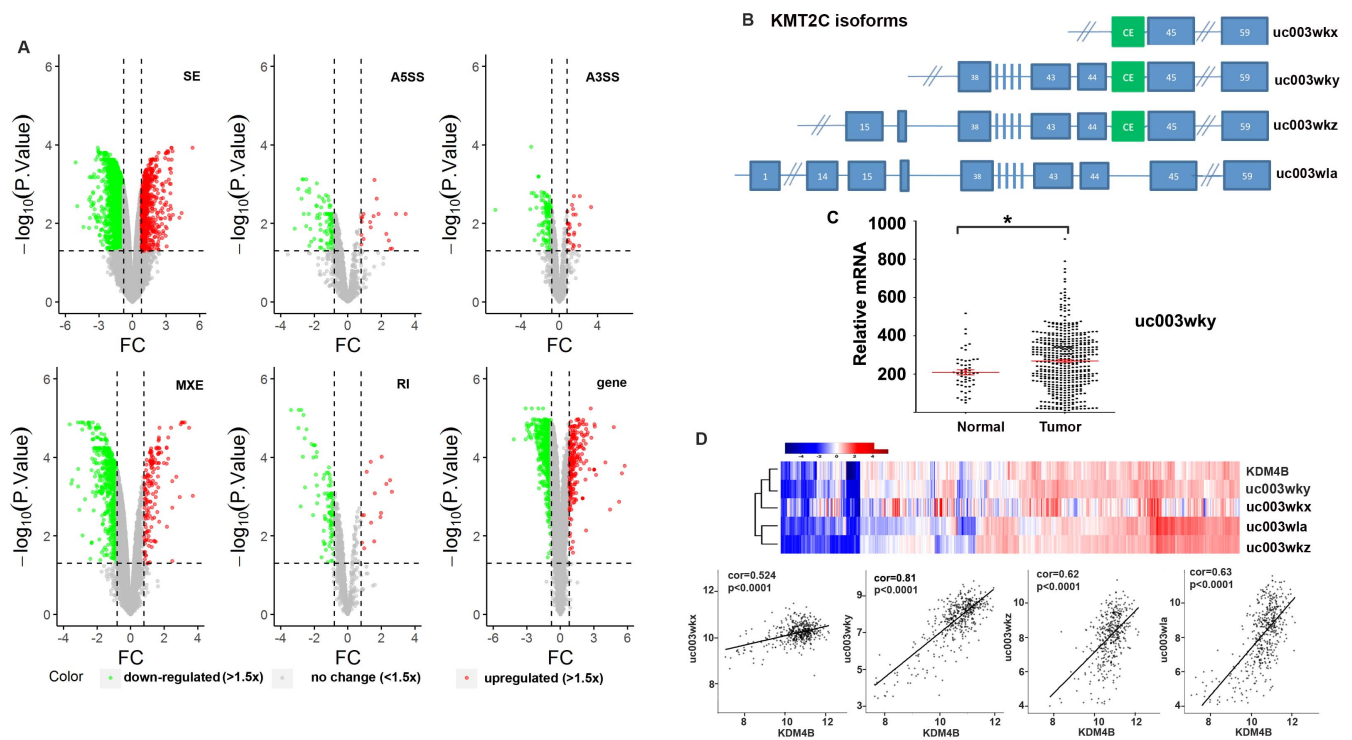


Figure S7. KDM4B targets global alternative splicing. (A) Volcano plot of differential alternative splicing events and genes between LNCaP-ctl and LNCaP-4B cells. (B) Schematics of 4 KDMT2C isoforms identified from UCSD-genome-wide browser. Isoforms uc003wqx, uc003wky, and uc003wkz contain an alternatively spliced cryptic exon ce whereas isoform uc003wla does not. (C) Relative mRNA levels of uc003wky in normal (n=50) vs tumor tissues (n=500) in TCGA database. *, $p < 0.05$. (D) Spearman's correlation analysis of levels of KDM4B vs KMT2C isoforms. The KDM4B level had strong positive correlation with KMT2C isoforms.

Table S1. Proteins identified in immunoprecipitates of LNCaP-4B cells. Stable LNCaP cells with overexpressed Flag-KDM4B/JMJD2B (LNCaP-4B) were lysed. Cell lysates were immunoprecipitated with anti-Flag antibody or control IgG, washed, eluted with 3xFlag peptide, and subjected to SDS-PAGE and mass spectrometry.

Table S2. Proteins identified in immunoprecipitates of LNCaP-4B cells. LNCaP-4B cell lysates were immunoprecipitated with anti-Flag antibody, treated with RNase, washed, and eluted with 3xFlag peptide, and subjected to SDS-PAGE and mass spectrometry.

Table S3. qRT-PCR primers used in this paper.

Table S1
Flag vs IgG

Protein (UniP)	Gene Symbol	Description	Length (AA)	mw (Da)	Indistinguisha	PSMs	Peptide Seqs	% Coverage	Modifications	SPECTRAL COUNTS		SPECTRAL INDEX (MIC Sin)		RATIO
										Flag-JMJD2B	control	Flag-JMJD2B	control	Flag-2B/control
B0QY89	EIF3L	B0QY89_HUM	607	61118.80	Q9Y262;Q9Y	19	11	24.20	Gln->pyro-Gl	11.96	5.98	2.34E-06	6.74E-07	2.00
P0CG05	IGLC2	LAC2_HUMA	106	11248.50	P0CG06;	3	3	41.50		2.00	1.00	1.06E-06	4.54E-07	2.00
H7C3T4	PRDX4	H7C3T4_HUM	161	30592.80	Q13162;	11	6	35.40	Gln->pyro-Gl	5.00	2.50	3.65E-06	5.98E-06	2.00
E7EPB3	RPL14	E7EPB3_HUM	124	23471.10	P50914;	3	2	19.40		2.00	1.00	2.40E-06	8.03E-07	2.00
F8VUA6	RPL18	F8VUA6_HUM	130	21675.10	F8VWC5;G3V	6	2	20.00		4.00	2.00	2.66E-06	1.42E-06	2.00
P62857	RPS28	RS28_HUMA	69	7854.21		3	2	30.40		2.00	1.00	2.87E-06	1.63E-06	2.00
P49411	TUFM	EFTU_HUMA	452	49636.20		6	4	12.20	Gln->pyro-Gl	4.00	2.00	1.24E-06	2.36E-07	2.00
P16989	YBX3	YBOX3_HUM	372	38602.80	P16989-2;P1	3	2	8.30		1.98	0.99	6.14E-07	9.25E-08	2.00
P23528	CFL1	COF1_HUMA	166	18526.70		6	3	22.30	Acetyl (Prote	3.95	1.97	4.17E-06	8.79E-07	2.01
P68363	TUBA1B	TBA1B_HUM	451	50245.70		16	16	45.70	Carbamidom	9.66	4.80	1.19E-05	3.42E-06	2.01
P55884	EIF3B	EIF3B_HUMA	814	99219.20	P55884-2;	14	8	11.90	Acetyl (Prote	8.99	4.00	1.22E-06	2.54E-07	2.25
E7ESA8	PRPF31	E7ESA8_HUM	450	40861.70	Q8WWY3;Q8	13	8	29.70	Carbamidom	8.91	3.96	5.18E-06	7.16E-07	2.25
P62277	RPS13	RS13_HUMA	151	17247.70		13	6	30.50		8.97	3.98	8.73E-06	2.00E-06	2.25
P68104	EEF1A1	EF1A1_HUM	462	50279.20	Q5VTE0;	76	17	33.80	Gln->pyro-Gl	53.87	21.96	6.97E-05	9.24E-06	2.45
P07437	TUBB	TBB5_HUMA	444	47862.10	Q5JP53;	22	22	61.30	Carbamidom	15.81	5.93	1.77E-05	4.49E-06	2.67
P04080	CSTB	CYTB_HUMA	98	11150.60		11	4	55.10		8.00	3.00	1.23E-05	2.27E-06	2.67
Q15365	PCBP1	PCBP1_HUM	356	37564.00		12	7	28.10	Carbamidom	8.00	3.00	2.54E-06	5.15E-07	2.67
P68371	TUBB4B	TBB4B_HUM	445	49925.10		15	21	54.80	Carbamidom	10.85	3.96	8.59E-06	1.10E-06	2.74
Q14152	EIF3A	EIF3A_HUMA	1382	166883.00		27	16	15.40	Oxidation (M	20.00	7.00	1.53E-06	4.61E-07	2.86
Q13347	EIF3I	EIF3I_HUMA	325	36568.70		4	3	18.20		3.00	1.00	1.64E-06	2.77E-07	3.00
P62805	HIST1H4H; H	H4_HUMAN	103	11378.40		4	2	17.50		3.00	1.00	2.49E-06	4.55E-07	3.00
P55795	HNRNPH2	HNRH2_HUM	449	49358.40		8	10	29.20	Acetyl (Prote	6.00	2.00	1.58E-06	2.89E-07	3.00
E9PH29	PRDX3	E9PH29_HUM	238	27747.20	P30048;	4	3	15.50		3.00	1.00	6.44E-06	2.90E-07	3.00
P36578	RPL4	RL4_HUMAN	427	47793.50		4	4	10.80		3.00	1.00	5.32E-07	7.79E-08	3.00
P05141	SLC25A5	ADT2_HUMA	298	32903.20		5	4	13.40	Acetyl (Prote	3.00	1.00	2.31E-06	2.88E-07	3.00
ABMWD9	SNRPGP15	RUXGL_HUM	76	7114.68	F5H013;P62	2	2	20.30		3.00	1.00	1.18E-05	2.67E-07	3.00
Q13247	SRSF6	SRSF6_HUM	344	38485.70	Q13247-3;	4	2	5.40		3.00	1.00	1.50E-06	2.45E-07	3.00
O60506	SYNCRIP	HNRPQ_HUM	623	58843.40	O60506-2;O6	4	3	6.30		2.97	0.99	5.12E-07	5.65E-08	3.00
P00390	GSR	GSHR_HUMA	522	53137.50	P00390-2;P0	4	3	10.60		2.99	0.99	3.54E-07	1.28E-08	3.02
P38646	HSPA9	GRP75_HUM	679	73832.90		78	33	55.40	Carbamidom	59.00	19.00	3.64E-05	4.22E-06	3.11
P98175	RBM10	RBM10_HUM	930	103640.00	P98175-2;	18	11	15.30		13.00	4.00	1.54E-06	2.52E-07	3.25
P80238	HSP90AB1	HS90B_HUM	724	83428.20		15	8	11.20		10.90	2.97	1.29E-06	1.83E-07	3.67
E9PKG1	PRMT1	E9PKG1_HUM	325	40612.10	H7C211;Q998	24	12	37.20	Carbamidom	18.88	4.96	6.79E-06	8.10E-07	3.81
B3KSH1	EIF3F	B3KSH1_HUM	372	37630.20	O00303;	10	5	17.40		7.92	1.98	2.86E-06	4.69E-07	4.00
P08107	HSPA1B; HSP	HSP71_HUM	641	70189.10		16	13	24.20		12.91	2.98	2.88E-06	2.29E-07	4.33
P25705	ATP5A1	ATPA_HUMA	553	54603.80	P25705-2;	11	7	16.50		8.90	1.98	1.73E-06	1.34E-07	4.49
Q92804	TAF15	RBP56_HUM	592	61683.10	Q92804-2;	11	7	18.20	Carbamidom	8.91	1.98	2.23E-06	4.93E-08	4.50
P11142	HSPA8	HSP7C_HUM	646	71034.30		47	27	44.70	Carbamidom	37.95	7.80	1.15E-05	8.82E-07	4.87
P60709	ACTB	ACTB_HUMA	375	41817.80		72	18	61.60	Acetyl (Prote	57.86	11.62	1.85E-04	4.29E-06	4.98
B4DLW8	DDX5	B4DLW8_HUM	535	69284.80	J3KTA4;P178	8	6	12.30	Oxidation (M	5.00	1.00	1.02E-06	1.90E-07	5.00
P49327	FASN	FAS_HUMAN	2511	273993.00		32	22	10.50	Acetyl (Prote	27.00	5.00	1.45E-06	6.71E-08	5.40
P46821	MAP1B	MAP1B_HUM	2468	271206.00		47	33	20.90	Acetyl (Prote	39.92	6.99	2.27E-06	1.45E-07	5.71
B4E2Q4	EIF3M	B4E2Q4_HUM	242	42583.90	Q7L2H7;	7	4	16.50		5.98	1.00	1.34E-06	6.64E-08	5.98
Q15393	SF3B3	SF3B3_HUM	1217	135852.00		7	6	5.90		5.99	1.00	4.38E-07	4.01E-08	5.99
Q92499	DDX1	DDX1_HUMA	740	82595.90		7	4	6.50		6.00	1.00	6.54E-07	3.38E-08	6.00
Q92734	TFG	TFG_HUMAN	400	43102.00	Q92734-2;	71	16	49.00	Acetyl (Prote	60.64	9.92	6.47E-05	4.68E-06	6.11
P52907	CAPZA1	CAZA1_HUM	286	32974.40		8	5	29.00	Acetyl (Prote	7.00	1.00	3.15E-06	1.42E-07	7.00
P04792	HSPB1	HSPB1_HUM	205	22822.50		8	4	25.90	Gln->pyro-Gl	7.00	1.00	5.98E-06	1.68E-07	7.00
P22626	HNRNPA2B1	ROA2_HUMA	353	37496.80		34	17	53.50	Oxidation (M	30.00	4.00	2.74E-05	1.17E-06	7.50
H7BY58	PCMT1	H7BY58_HUM	286	24717.60	J3KP72;P220	35	11	59.50	Carbamidom	30.98	4.00	4.36E-05	1.84E-06	7.75
P11021	HSPA5	GRP78_HUM	654	72468.50		45	31	52.00	Oxidation (M	39.00	5.00	8.06E-06	6.41E-07	7.80
E9PHS0	LANCL1	E9PHS0_HUM	196	45361.60	O43813;	14	7	38.80	Carbamidom	13.00	1.00	2.12E-05	2.34E-07	13.00
P35637	FUS	FUS_HUMAN	526	53466.80	P35637-2;	29	10	19.40	Ammonia-los	28.00	1.00	2.28E-05	4.34E-08	28.00
P24752	ACAT1	THIL_HUMAN	427	45296.70		3	3	8.70		3.00		1.05E-06		jmjd2B only
Q562R1	ACTBL2	ACTBL_HUM	376	42084.00		1	6	17.60	Oxidation (M	1.00		1.20E-05		jmjd2B only
H7C550	ACTL6A	H7C550_HUM	161	43316.40	O96019;O96	2	2	17.40		2.00		7.42E-07		jmjd2B only
Q5TA58	AGO1	Q5TA58_HUM	782	97404.30	Q9UL18;	1	2	3.20		1.00		8.91E-08		jmjd2B only
Q9UKV8	AGO2	AGO2_HUMA	859	93794.30	Q9UKV8-2;	4	4	5.80		4.00		4.99E-07		jmjd2B only
Q9H9G7	AGO3	AGO3_HUMA	860	71345.50	Q9H9G7-2;	1	2	4.00		0.99		8.58E-08		jmjd2B only
P54886	ALDH18A1	P5CS_HUMA	795	87268.60	P54886-2;	3	3	4.90		3.00		2.66E-07		jmjd2B only
B3VOL1	ARL6IP4	B3VOL1_HUM	226	36279.20	F5GYV5;F8W	3	3	19.00		2.97		1.31E-06		jmjd2B only
H0YH81	ATP5B	H0YH81_HUM	362	56668.70	P06576;	2	2	9.10		1.98		4.51E-07		jmjd2B only
Q9Y224	C14orf166	CN166_HUM	244	28122.80		3	3	16.40		3.00		1.72E-06		jmjd2B only
B1AK87	CAPZB	B1AK87_HUM	260	30681.40	B1AK88;P47	4	3	14.60		3.98		1.79E-06		jmjd2B only
Q00610	CLTC	CLH1_HUMA	1675	188257.00	Q00610-2;	16	13	10.40		15.98		1.01E-06		jmjd2B only
P62633	CNBP	CNBP_HUMA	177	19713.70	P62633-2;P6	3	2	13.50	Carbamidom	2.97		4.74E-06		jmjd2B only
C9JH19	CTSD	C9JH19_HUM	299	44631.70	CONT_CATD	3	3	19.10	Gln->pyro-Gl	2.00		7.84E-07		jmjd2B only
O00571	DDX3X	DDX3X_HUM	662	71491.00	O00571-2;	7	7	14.10	Oxidation (M	6.98		1.35E-06		jmjd2B only
Q43143	DDX15	DDX15_HUM	795	91109.30		2	2	3.10		2.00		1.49E-07		jmjd2B only
Q8IXB1	DNAJC10	DIC10_HUM	793	91255.40		2	2	2.80		2.00		1.44E-07		jmjd2B only
Q13011	ECH1	ECH1_HUMA	328	35883.40		3	3	12.50		2.99		6.78E-07		jmjd2B only
E9PI39	EEF1D	E9PI39_HUM	204	28612.40	E9PIZ1;E9PK	2	2	17.50		2.00		7.54E-07		jmjd2B only
B4DTG2	EEF1G	B4DTG2_HUM	487	50213.20	P26641;	3	2	5.30		3.00		5.25E-07		jmjd2B only
B4DVY1	EIF3D	B4DVY1_HUM	499	64094.50	O15371;	3	2	4.80		2.97		5.39E-07		jmjd2B only
F8VP89	EIF4B	F8VP89_HUM	275	31274.00		1	4	12.70		1.00		8.42E-07		jmjd2B only
B0QYK0	EWSR1	B0QYK0_HUM	618	62631.10	Q01844;Q01	14	7	15.00	Carbamidom	13.86		5.17E-06		jmjd2B only
B4DT23	FAM98A	B4DT23_HUM	323	55382.30	E9PH82;Q8N	2	2	8.70		2.00		2.66E-07		jmjd2B only
K7ELX4	FECH	K7ELX4_HUM	326	48720.00	P22830;P228	2	2	9.50		1.98		1.98E-07		jmjd2B only
B4DT31	FUBP1	B4DT31_HUM	665	68742.10	E9PEB5;Q96	2	3	4.70		2.00		1.90E-07		jmjd2B only
E7EUT5	GAPDH	E7EUT5_HUM	260	31600.00	P04406;P044	6	5	27.70		6.00		1.85E-06		jmjd2B only
F8VTK5	HNRNPA1	F8VTK5_HUM	145	34294.30	F8VZ49;F8W	4	3	29.00		3.96		3.30E-06		jmjd2B only
P51991	HNRNPA3	ROA3_HUMA	378	37096.20	P51991-2;	4	2	7.00		3.00		1.24E-06		jmjd2B only
P52597	HNRNPF	HNRPF_HUM	415	45750.90		7	6	18.10	Gln->pyro-Gl	7.00		3.14E-06		jmjd2B only

B4DHY1	HNRNPH3	B4DHY1_HU	238	15439.10	P31942;P319	3	3	22.30		3.00	1.84E-06	jmjd2B only
MOR019	HNRNPM	MOR019_HU	353	73770.50	P52272;P522	1	2	5.90		1.00	1.37E-07	jmjd2B only
Q99714	HSD17B10	HCD2_HUMA	261	26978.20		6	4	24.10	Oxidation (M	5.97	3.42E-06	jmjd2B only
P10809	HSPD1	CH60_HUMA	573	61178.50		17	13	30.00	Carbamidom	16.93	4.00E-06	jmjd2B only
P01857	IGHG1	IGHG1_HUM	330	36173.20		8	3	9.70	Oxidation (M	6.00	2.29E-05	jmjd2B only
P01834	IGKC	IGKC_HUMA	106	11619.70		1	2	30.20		1.00	5.24E-06	jmjd2B only
F5GX28	KDM4B	F5GX28_HUM	1130	126326.00		45	26	25.30	Carbamidom	44.67	9.39E-06	jmjd2B only
Q92945	KHSRP	FUBP2_HUM	711	73268.10		4	4	6.00		4.00	5.49E-07	jmjd2B only
MOQZF9	KLK3	MOQZF9_HU	172	25153.70	MOR1F0;MOR	4	3	20.30		2.98	2.47E-06	jmjd2B only
P05787	KRT8	K2C8_HUMA	483	56717.50	P05787-2;	2	10	13.50		2.00	2.46E-07	jmjd2B only
Q08380	LGALS3BP	LG3BP_HUM	585	65451.40		4	4	7.50		3.99	5.01E-07	jmjd2B only
B7Z8V7	NADK2	B7Z8V7_HU	301	31768.20	Q4G0N4;Q4C	3	2	9.30		2.00	3.11E-07	jmjd2B only
J3KPD9	NME1-NME2	J3KPD9_HUN	197	32692.90	P22392;P223	4	3	24.90		3.97	3.34E-06	jmjd2B only
C9JYS8	NONO	C9JYS8_HUM	248	43946.20	Q15233;Q15	2	2	9.30		1.98	8.26E-07	jmjd2B only
E9PAL9	NTSDC2	E9PAL9_HUN	557	57311.00	Q9H857;Q9H	2	2	4.30		2.00	3.15E-07	jmjd2B only
H3BMW1	NUBP2	H3BMW1_HU	139	28878.90	H3BNF0;H3B	1	2	45.70		1.00	6.91E-07	jmjd2B only
Q53EL6	PDCD4	PDCD4_HUM	469	50670.60	Q53EL6-2;	2	3	10.30		2.00	5.61E-07	jmjd2B only
O75340	PDCD6	PDCD6_HUM	191	21908.80		11	5	21.50	Oxidation (M	10.97	1.12E-05	jmjd2B only
Q9UBV8	PEF1	PEF1_HUMA	284	30433.30		4	3	12.00	Oxidation (M	4.00	3.90E-06	jmjd2B only
O43175	PHGDH	SERA_HUMA	533	53195.50	Q5SZU1;	4	4	9.60		4.00	6.48E-07	jmjd2B only
Q9GZP4	PITHD1	PITH1_HUMA	211	24159.80	Q9GZP4-2;	3	2	9.50		3.00	1.43E-06	jmjd2B only
B4E0V0	PNPO	B4E0V0_HUN	166	30040.80	B4E152;B4E1	2	2	10.20		1.99	1.39E-06	jmjd2B only
P22694	PRKACB	KAPCB_HUM	351	41459.30	P22694-2;P2	4	3	8.90		3.96	1.29E-06	jmjd2B only
K7EM13	PRKAR1A	K7EM13_HU	153	43063.00	K7EPB2;K7EP	2	2	19.00		2.00	7.52E-07	jmjd2B only
B5MDF5	RAN	B5MDF5_HU	233	24461.70	HOYFC6;J3KC	2	2	21.40		1.98	1.08E-06	jmjd2B only
Q96PK6	RBM14	RBM14_HUN	669	69647.00		4	3	4.90		4.00	5.34E-07	jmjd2B only
HOY6E7	RBMX	HOY6E7_HUM	292	42224.30	H3BR27;H3B	2	2	34.60		1.98	4.30E-07	jmjd2B only
D6RAN4	RPL9	D6RAN4_HU	182	21903.80	HOY9V9;P325	3	2	13.20		1.98	8.14E-07	jmjd2B only
F8VWS0	RPLP0	F8VWS0_HU	281	27490.40	F8VZS0;P053	2	2	11.00		1.98	7.35E-07	jmjd2B only
Q9Y3I0	RTCB	RTCB_HUMA	505	55318.90		7	7	16.00		7.00	1.88E-06	jmjd2B only
A6PVW9	SELENBP1	A6PVW9_HU	514	45428.30	Q13228;Q13	3	3	8.10		2.97	3.93E-07	jmjd2B only
E9PJ04	SF3B2	E9PJ04_HUM	354	100417.00	E9PJT3;HOYC	3	3	15.40		2.97	6.07E-07	jmjd2B only
P23246	SFPQ	SFPQ_HUMA	707	72415.90	P23246-2;	2	2	4.20		2.00	2.25E-07	jmjd2B only
B4DLV4	SHMT2	B4DLV4_HUM	408	53565.50	G3V2Y4;G3V	2	2	11.60		2.00	4.78E-07	jmjd2B only
F8VXC8	SMARCC2	F8VXC8_HUM	1245	127188.00	Q8TAQ2;Q8T	4	4	3.50	Gln->pyro-Gl	4.00	1.97E-07	jmjd2B only
P08621	SNRNP70	RU17_HUMA	437	19814.00	P08621-2;P0	8	5	34.30		8.00	2.14E-06	jmjd2B only
MOR268	SNRPA	MOR268_HU	256	31331.20	P09012;	10	7	36.70	Acetyl (Prote	9.00	4.62E-06	jmjd2B only
J3KTL2	SRSF1	J3KTL2_HUM	253	22500.00	Q07955;Q07	5	4	21.40	Carbamidom	4.95	1.69E-06	jmjd2B only
HOYKU1	TMOD3	HOYKU1_HU	187	39660.40	HOYNJ8;Q9N	4	4	28.90	Gln->pyro-Gl	4.00	1.74E-06	jmjd2B only
Q13263	TRIM28	TIF1B_HUMA	835	79639.60	Q13263-2;	3	2	6.10	Acetyl (Prote	2.98	3.05E-07	jmjd2B only
A8MUB1	TUBA4A	A8MUB1_HU	433	50018.40	P68366;	5	15	45.30	Carbamidom	3.97	3.38E-06	jmjd2B only
Q9NQH7	XPNEP3	XPP3_HUMA	507	54780.60	Q9NQH7-4;	14	8	16.50		13.84	4.78E-06	jmjd2B only

Table S2
KDM4B RNase vs noRNase

Protein (UniProt)	Gene Symbol	Description	Length (AA)	mw (Da)	Indistinguishable PSMs	Peptide Sequences	% Coverage	Modifications	SPECTRAL COUNTS		SPECTRAL INDEX (MIC SIN)		RATIO
									2BNORNASE	2BWITHRNASE	2BNORNASE	2BWITHRNASE	
Q14744	PRMT5	ANM5_HUMAN	637	72817.60	70	25	43.50	Acetyl (Prote	59.15		3.39E-05	2BNORNASE Only	
P46821	MAP1B	MAP1B_HUMAN	2468	272001.20	31	29	17.70	Acetyl (Prote	30.90		1.64E-06	2BNORNASE Only	
Q9BQA1	WDR77	MEP50_HUMAN	342	36791.10	20	11	41.50	Carbamidom	17.96		1.78E-05	2BNORNASE Only	
E7EVX8	PRPF31	E7EVX8_HUMAN	493	55655.50	Q8WVW3;	14	11	32.00	Gln->pyro-Gl	10.86	3.00E-06	2BNORNASE Only	
E7EX17	E1F48	E7EX17_HUMAN	616	69290.40	P23588;	14	17	29.10		8.92	3.16E-06	2BNORNASE Only	
Q9Y2W1	THRAP3	TR150_HUMAN	955	108871.00		12	9	8.90	Oxidation (M	11.00	2.92E-06	2BNORNASE Only	
B5ME19	E1F3CL	E1F3CL_HUMAN	914	105548.00	H3BRV0;Q99	10	10	10.20	Carbamidom	8.00	1.18E-06	2BNORNASE Only	
P98175	RBM10	RBM10_HUMAN	930	103640.00	P98175-2;	10	9	13.60	Oxidation (M	8.00	1.19E-06	2BNORNASE Only	
Q99714	HSO17B10	HC02_HUMAN	261	26039.60	Q99714-2;	9	4	32.50		9.00	2.21E-06	2BNORNASE Only	
B4DLW8	DDX5	B4DLW8_HUMAN	535	69284.80	J3KTA4;P178	9	14	28.40	Carbamidom	6.49	1.90E-06	2BNORNASE Only	
Q9UH86	L1MA1	L1MA1_HUMAN	759	85387.50	Q9UH86-4;	9	9	13.70		7.92	1.34E-06	2BNORNASE Only	
P04792	HSPB1	HSPB1_HUMAN	205	22822.50		9	7	50.20	Gln->pyro-Gl	7.00	5.91E-06	2BNORNASE Only	
P09012	SNRPA	SNRPA_HUMAN	282	31331.20		9	7	33.30	Acetyl (Prote	4.95	3.79E-06	2BNORNASE Only	
Q15208	STK38	STK38_HUMAN	465	54281.40		8	8	15.90		7.00	2.82E-06	2BNORNASE Only	
B3KVR1	SNRPN	B3KVR1_HUMAN	244	24652.10	J3QLE5;P146	8	5	26.00	Oxidation (M	7.00	6.42E-06	2BNORNASE Only	
E9PH50	LANCL1	E9PH50_HUMAN	196	45361.60	Q43813;	8	7	48.00	Carbamidom	6.00	3.13E-06	2BNORNASE Only	
P08621	SNRNP70	RU17_HUMAN	437	50713.40	P08621-2;	8	8	16.10		6.96	2.47E-06	2BNORNASE Only	
P13639	EEF2	EEF2_HUMAN	858	95529.10		8	8	11.00	Ammonia-los	7.00	7.00E-07	2BNORNASE Only	
P62316	SNRPD2	SMD2_HUMAN	118	13536.20		8	5	46.60	Acetyl (Prote	4.96	7.59E-06	2BNORNASE Only	
Q01085	TIAL1	TIAL1_HUMAN	375	43529.10	Q01085-2;	7	6	20.50	Gln->pyro-Gl	6.86	2.80E-06	2BNORNASE Only	
Q14247	CTTN	SRCE_HUMAN	550	61710.60		7	7	12.70	Carbamidom	6.94	1.40E-06	2BNORNASE Only	
Q6UB35	MTFHFDL1	CTTM_HUMAN	978	105012.00		7	6	9.40		6.99	6.99E-07	2BNORNASE Only	
E9PK09	BCLAF1	E9PK09_HUMAN	726	100424.00	E9PK09;E9PK	7	6	7.90	Oxidation (M	2.99	4.12E-07	2BNORNASE Only	
Q60506	SYNCRP	HNRPO_HUMAN	623	58843.40	Q60506-2;Q6	7	6	12.90		3.97	1.12E-06	2BNORNASE Only	
Q13885	TUBB2A	TUBB2A_HUMAN	445	50047.00	Q9BVA1;	7	21	53.70	Carbamidom	2.50	4.55E-07	2BNORNASE Only	
P52732	KIF11	KIF11_HUMAN	1056	119391.00		6	7	7.50		6.00	8.71E-07	2BNORNASE Only	
Q08554	DSC1	DSC1_HUMAN	894	94010.20	Q08554-2;	6	5	8.00	Carbamidom	4.00	1.19E-06	2BNORNASE Only	
E9PMI6	CLNS1A	E9PMI6_HUMAN	167	26252.90	J3KN38;P541	6	4	34.10		4.98	1.60E-06	2BNORNASE Only	
Q14008	CKAP5	CKAP5_HUMAN	2032	226708.00	Q14008-2;Q1	5	4	2.70		4.00	9.21E-08	2BNORNASE Only	
Q9Y2H1	STK38L	ST38L_HUMAN	464	54094.50		5	7	18.10	Carbamidom	2.98	7.55E-07	2BNORNASE Only	
Q53E16	PDCD4	PDCD4_HUMAN	469	50670.60	Q53E16-2;	5	4	12.70		5.00	6.97E-07	2BNORNASE Only	
Q92945	KHSRP	FUBP2_HUMAN	711	73268.10		5	6	10.80		2.98	4.31E-07	2BNORNASE Only	
E9P19	EEF1D	E9P19_HUMAN	204	71544.20	E9P191;E9PK	5	3	36.90		4.00	2.09E-06	2BNORNASE Only	
J3KTL2	SRF	J3KTL2_HUMAN	253	22500.00	Q07955;Q07	5	5	32.30	Carbamidom	5.00	2.74E-06	2BNORNASE Only	
P26599	PTBP1	PTBP1_HUMAN	531	59758.00	P26599-2;P2	5	4	12.10		3.96	5.65E-07	2BNORNASE Only	
P47756	CAPZB	CAPZB_HUMAN	277	30681.40	P47756-2;	5	4	16.50	Acetyl (Prote	2.95	1.43E-06	2BNORNASE Only	
P62424	RPL7A	RPL7A_HUMAN	266	21585.40	Q5TR8U;	5	4	21.50		3.00	1.24E-06	2BNORNASE Only	
B4DJP7	SNRPD3	B4DJP7_HUMAN	120	13943.30	P62318;	4	2	15.80	Oxidation (M	2.00	6.40E-06	2BNORNASE Only	
K7EQ02	DAZAP1	K7EQ02_HUMAN	225	40611.90	Q96P65;Q96	4	3	18.70	Acetyl (Prote	2.00	6.14E-07	2BNORNASE Only	
P11717	IGF2R	MPRI_HUMAN	2491	274937.00		4	4	2.00	Carbamidom	3.00	6.53E-08	2BNORNASE Only	
Q13247	SRSF6	SRSF6_HUMAN	344	38485.70	Q13247-3;	4	4	11.00	Gln->pyro-Gl	2.98	1.53E-06	2BNORNASE Only	
A6P9W9	SELENP1	A6P9W9_HUMAN	514	48381.10	Q13228;Q13	4	4	13.50		4.98	7.86E-07	2BNORNASE Only	
Q8WUY3	PRUNE2	Q8WUY3_HUMAN	3088	337607.00	Q8WUY3-2;Q	4	3	1.40	Gln->pyro-Gl	3.00	6.36E-08	2BNORNASE Only	
Q9UKV8	AGO2	AGO2_HUMAN	859	93794.30	Q9UKV8-2;	4	4	5.10		3.00	2.43E-07	2BNORNASE Only	
P67936	TPM4	TPM4_HUMAN	248	28576.50		4	2	7.30		0.99	9.74E-08	2BNORNASE Only	
D6RAF8	HNRNPD	D6RAF8_HUMAN	221	32904.10	Q14103;Q14	4	6	29.90	Carbamidom	0.99	1.50E-06	2BNORNASE Only	
J3KS22	DCXR	J3KS22_HUMAN	224	25968.60	J3QS36;Q724	4	3	14.70		3.00	1.28E-06	2BNORNASE Only	
P07553	SF3B1	SF3B1_HUMAN	1304	146116.00		4	3	3.30		4.00	2.24E-07	2BNORNASE Only	
P00390	GSR	GSHR_HUMAN	522	47363.30	P00390-2;P0	4	4	12.50	Carbamidom	3.99	1.56E-06	2BNORNASE Only	
P10644	PRKAR1A	KAPQ_HUMAN	381	43063.00		4	4	12.90		2.98	7.53E-07	2BNORNASE Only	
P23246	SFPQ	SFPQ_HUMAN	707	76299.70		4	4	6.40		3.00	4.95E-07	2BNORNASE Only	
P23528	CFL1	COP1_HUMAN	166	18536.10		4	5	39.20	Acetyl (Prote	2.95	3.41E-06	2BNORNASE Only	
P26641	EEF1G	EEF1G_HUMAN	437	50213.20		4	3	8.50	Acetyl (Prote	2.00	1.87E-07	2BNORNASE Only	
Q1A82	SRSF7	Q1A82_HUMAN	235	26050.30	Q16629;Q16	3	3	31.80		3.00	1.47E-06	2BNORNASE Only	
J3L380	C1QB	J3L380_HUMAN	178	31414.70	J3LQ07;Q070	3	3	33.90	Carbamidom	3.00	5.08E-07	2BNORNASE Only	
P62805	HIST1H4H	H4_HUMAN	103	11378.40		3	3	29.10		3.00	6.37E-06	2BNORNASE Only	
Q35Y84	SERPINB12	Q35Y84_HUMAN	425	46355.10	Q96P63;	3	4	9.40	Oxidation (M	2.00	8.69E-07	2BNORNASE Only	
Q9UBV8	PEF1	PEF1_HUMAN	284	30433.30		3	2	8.50	Oxidation (M	2.00	1.61E-07	2BNORNASE Only	
C9YQ9	RPL22L1	C9YQ9_HUMAN	121	14643.30	H0Y8C2;Q6P	3	2	15.70		1.00	3.60E-06	2BNORNASE Only	
Q01469	FABP5	FABP5_HUMAN	135	15190.60		3	2	13.30	Acetyl (Prote	1.00	1.14E-06	2BNORNASE Only	
Q15437	SEC23B	SEC23B_HUMAN	767	86699.60		3	4	7.30	Acetyl (Prote	1.00	1.07E-07	2BNORNASE Only	
Q07540	DIAT	H0YD04_HUMAN	479	60313.20	P10515;	3	3	9.60	Carbamidom	3.00	2.21E-07	2BNORNASE Only	
P21333	FLNA	FLNA_HUMAN	2647	277152.00	P21333-2;Q5	3	3	1.80		3.00	3.94E-06	2BNORNASE Only	
P22694	PRKACB	KAPCB_HUMAN	351	41459.30	P22694-2;P2	3	3	8.90		2.97	5.88E-07	2BNORNASE Only	
P38919	IF4A3	IF4A3_HUMAN	411	46949.20		3	3	8.50		2.92	8.35E-07	2BNORNASE Only	
P39656	DDOST	O5T48_HUMAN	456	50895.00		3	3	7.20		2.99	4.13E-07	2BNORNASE Only	
P60866	RPS20	RS20_HUMAN	119	16031.50	P60866-2;	3	3	22.70		2.97	7.92E-06	2BNORNASE Only	
P61158	ACTR3	ARP3_HUMAN	418	47449.10		3	3	12.90	Carbamidom	0.99	7.0E-08	2BNORNASE Only	
P62304	SNRPE	RUXE_HUMAN	92	10814.70		3	2	25.00	Oxidation (M	2.00	2.01E-06	2BNORNASE Only	
Q76031	CLPX	CLPX_HUMAN	653	69360.80		2	2	4.10		2.00	3.00E-07	2BNORNASE Only	
Q94919	ENDOD1	ENDOD1_HUMAN	500	55325.40		2	2	8.40		1.00	2.57E-07	2BNORNASE Only	
Q00577	PURA	PURA_HUMAN	322	34979.40		2	2	15.20		2.00	5.44E-07	2BNORNASE Only	
Q14011	CIRBP	CIRBP_HUMAN	172	18672.80		2	2	18.60		2.00	2.00E-07	2BNORNASE Only	
B4DT31	FUBP1	B4DT31_HUMAN	665	68742.10	E9PE85;Q964	2	3	4.80		1.98	2.52E-07	2BNORNASE Only	
B4DMU0	FUBP1	B4DMU0_HUMAN	346	33409.60	J3QKT4;P323	2	2	9.90	Carbamidom	1.98	8.32E-07	2BNORNASE Only	
Q9Y657	SPIN1	SPIN1_HUMAN	262	29653.80		2	2	10.30		2.00	7.58E-07	2BNORNASE Only	
Q52L0	FAM98B	FA98B_HUMAN	330	45644.80	Q52L0D-2;	2	2	7.00	Carbamidom	2.00	1.55E-07	2BNORNASE Only	
Q9NR12	BAZ1A	BAZ1A_HUMAN	1556	175277.00	Q9NR12-2;	2	2	1.50		2.00	1.95E-07	2BNORNASE Only	
B7Z403	GLOD4	B7Z403_HUMAN	289	33283.60	Q9HC38;Q9H	2	2	8.00		1.98	5.69E-07	2BNORNASE Only	
P84090	ERH	ERH_HUMAN	104	12269.00		2	2	21.20	Acetyl (Prote	1.00	9.10E-07	2BNORNASE Only	
F5CWF6	CCT2	F5CWF6_HUMAN	530	57596.20	P8VQ14;P78	2	2	8.40		1.00	1.69E-07	2BNORNASE Only	
Q5T196	FLAD1	Q5T196_HUMAN	456	36931.40	Q8NFF5;Q8N	2	2	10.50		1.99	1.24E-07	2BNORNASE Only	
P06702	S100A9	S100A9_HUMAN	114	13251.50		2	2	17.50		1.00	2.61E-06	2BNORNASE Only	
B4DGU4	CTNNB1	B4DGU4_HUMAN	774	85676.40	P35222;	2	2	2.80	Carbamidom	1.50	9.45E-08	2BNORNASE Only	
B4DEM7	CCT8	B4DEM7_HUMAN	529	59744.60	B4DQH4;P50	2	2	5.30		0.99	4.04E-08	2BNORNASE Only	
C9IZL7	NONO	C9IZL7_HUMAN	207	43946.20	C9IYS8;Q152	2	2	8.20		1.98	7.45E-07	2BNORNASE Only	
Q13572	ITPK1	ITPK1_HUMAN	414	45700.20		2	2	8.20		1.00	1.27E-07	2BNORNASE Only	
C9JW96	PHB	C9JW96_HUMAN	246	29857.90	C9JZ20;E7ES	2	2	10.40		1.00	3.25E-07	2BNORNASE Only	
E9PLA9	CAPRIN1	E9PLA9_HUMAN	186	77012.40	G3V153;Q14	2	2	1.60		1.00	1.38E-07	2BNORNASE Only	
Q9P219	CDC80C	DAFL_E_HUMAN	2028	228685.00		2	3	12.40		1.00	3.41E-08	2BNORNASE Only	
P62306	SNRPF	SNRPF_HUMAN	86	9736.79		2	2	24.40	Carbamidom	2.00	8.01E-07	2BNORNASE Only	
D6R9W4	DBN1	D6R9W4_HUMAN	317	36450.80	Q16643;Q16	2	2	9.80		2.00	4.73E-07	2BNORNASE Only	
J3KXN5	DDX41	J3KXN5_HUMAN	640	69973.10	Q9UJV9;	2	3	7.10		2.00	2.70E-07	2BNORNASE Only	
MOR248	ECH1	MOR248_HUMAN	267	35883.40	Q13011;	2	2	9.40		2.00	4.15E-07	2BNORNASE Only	
Q75131	CPNE3	CPNE3_HUMAN	537	60236.20		2	2	3.40		2.00	2.14E-07	2BNORNASE Only	
Q13509	TUBB3	TBB3_HUMAN	450	50526.30		2	14	33.60	Carbamidom	2.00	2.03E-07	2BNORNASE Only	
P21796	VDAC1	VDAC1_HUMAN	283	30825.60		2	2	3.90		1.98	5.54E-07	2BNORNASE Only	
P31025													

P46781	RPS9	RS9_HUMAN	194	22631.60		21	10	47.90	7.99	10.98	1.22E-05	5.85E-06
B4E2W0	HADHB	B4E2W0_HU	452	51387.60	P55084;	9	6	12.20	4.94	2.96	1.85E-06	8.86E-07
P14923	JUP	FLAK_HUMAN	745	81908.90		46	21	37.40	16.46	23.86	3.72E-06	1.17E-06
F5G6Z8	KDM4B	F5G6Z8_HU	1130	122143.00	Q94953;	75	30	30.30	38.94	29.95	5.83E-06	2.66E-06
P05141	SLC25A5	ADL2_HUMAN	298	32903.20		13	11	34.90	Acetyl (Prote	6.00	7.00	6.26E-06
P61247	RPS3A	RS3A_HUMAN	364	28997.80		30	14	48.10	Carbamidom	11.59	11.66	6.53E-06
P25705	ATPSA1	ATPA_HUMAN	553	59875.70		28	15	31.60	Oxidation (M	10.80	12.71	4.09E-06
P08107	HSPA1B; HSP	HSP71_HUM	641	70189.10		41	26	50.40	Carbamidom	16.81	17.86	4.15E-06
Q92804	TAF15	RBP56_HUM	592	61683.10	Q92804-2;	18	9	28.40	Gln->pyro-Gl	8.91	5.94	6.46E-06
Q98261	MRPL37	RM37_HUM	423	55061.90	SAR369;	3	2	7.30		1.00	1.00	9.46E-08
P81605	DCD	DCD_HUMAN	110	12442.50	P81605-2;	14	5	40.90		5.00	7.00	1.07E-05
B4DT58	DPF2	B4DT58_HU	207	44235.20	J3KMZ8;Q92	5	3	15.90	Acetyl (Prote	1.00	1.00	1.87E-07
Q95831	AIFM1	AIFM1_HUM	613	66433.70	Q95831-3;	3	3	5.70		0.99	0.99	5.43E-08
Q13263	TRIM28	TRIFB_HUM	835	79639.60	Q13263-2;	5	4	9.40	Acetyl (Prote	1.98	1.98	2.22E-07
J3KR55	RPL17	J3KR55_HU	174	26409.20	J3QQT2;J3QS	3	3	25.40		1.98	0.99	2.42E-06
P55884	EIF3B	EIF3B_HUM	814	99219.20	P55884-2;	34	19	27.50	Acetyl (Prote	12.99	16.00	2.13E-06
80QYK0	EWSR1	80QYK0_HU	618	62631.10	Q01844;Q01	38	8	16.20	Carbamidom	12.87	13.86	5.97E-06
Q92922	SMARCC1	SMRCL_HUM	1105	123114.00		7	5	6.60	Acetyl (Prote	2.00	1.00	6.89E-08
G5E975	SMARCB1	G5E975_HU	394	43238.60	Q12824;Q12	11	7	18.90		2.97	4.95	1.10E-06
P32119	PRDX2	PRDX2_HUM	198	2192.30		14	6	31.80	Gln->pyro-Gl	5.49	3.49	4.00E-06
Q8N1N4	KRT78	K2C78_HUM	520	56974.60		15	14	23.70	Carbamidom	7.98	5.97	1.67E-06
Q96019	ACTL6A	ACTL6A_HU	429	43316.40	Q96019-2;	6	4	16.50	Gln->pyro-Gl	2.00	1.00	9.71E-07
Q14949	ARID1A	ARID1A_HUM	2285	206349.00	Q14949-2;Q1	7	7	4.00	Gln->pyro-Gl	2.98	1.99	6.88E-08
Q43390	HNRNPR	HNRNPR_HUM	633	60059.90	Q43390-2;S4	2	4	7.70		0.99	0.99	1.44E-07
HOYFN5	RPS2	HOYFN5_HU	195	31376.60	P15880;	15	7	32.90	Carbamidom	8.87	4.93	7.98E-06
POK259	KRT6B	K2C6B_HUM	564	60192.40		8	43	61.00	Carbamidom	4.00	4.00	2.60E-06
P08779	KRT16	K1C16_HUM	473	51362.30		66	35	69.10	Carbamidom	30.00	27.00	1.90E-05
Q16822	PKC2	PKCGM_HUM	640	70864.80		18	10	18.60	Oxidation (M	8.87	7.88	1.76E-06
Q04695	KRT17	K1C17_HUM	432	48202.10		21	27	50.90	Ammonia-iot	8.95	8.94	4.12E-06
P62266	RPS23	RS23_HUMA	143	15833.70		5	2	15.40		2.00	2.00	2.83E-06
P49411	TUFM	EFTU_HUMAN	452	49636.20		33	12	34.70	Carbamidom	17.00	14.00	8.08E-06
Q92734	TFG	TFG_HUMAN	400	43102.00	Q92734-2;	92	16	49.00	Acetyl (Prote	29.80	31.82	3.25E-05
P62906	RPL10A	RL10A_HUM	217	24869.60		5	4	14.70		2.00	1.00	2.52E-06
P04908	HIST1H2AE;	H2A1B_HUM	130	14047.00	POCOSS;P206	13	3	27.10		4.98	5.98	6.45E-06
M0R210	RPS16	M0R210_HU	129	16471.10	P62249;	18	9	62.80	Carbamidom	8.91	5.94	3.38E-05
P05576	ATP5B	ATP5B_HUM	529	56668.70		8	6	16.10		3.95	2.98	7.03E-07
P10809	HSPD1	CH60_HUMAN	573	61178.50		41	18	46.60	Carbamidom	22.96	15.00	6.41E-06
K7EL20	EIF3G	K7EL20_HUM	263	35679.00	K7ER90;Q753	17	7	31.70		7.97	6.00	2.62E-06
HOY6E7	RBMX	HOY6E7_HU	292	42224.20	H3B827;H3B	2	2	34.60		0.99	0.99	3.66E-07
Q13347	EIF3I	EIF3I_HUMA	325	36568.70		18	11	47.70	Carbamidom	11.00	5.00	6.88E-06
HOY449	YBX1	HOY449_HU	374	35992.70	P67809;	3	3	18.20		2.00	1.00	6.73E-07
B4DV88	ELAVL1	B4DV88_HU	353	39061.70		5	4	11.90	Carbamidom	3.98	1.00	1.70E-06
Q15393	SF3B3	SF3B3_HUM	1217	135852.00		15	12	12.70		7.00	4.99	6.89E-07
Q00796	SORD	DHS0_HUM	357	38389.90		11	7	23.50	Acetyl (Prote	4.99	3.99	2.64E-06
Q41343	DHX15	DHX15_HUM	795	91799.20		14	9	11.70	Carbamidom	6.00	7.00	1.37E-06
P07437	TUBB	TBB5_HUMAN	444	48765.00		21	24	62.40	Carbamidom	10.89	6.93	3.25E-06
B4DSU6	HNRNPC	B4DSU6_HU	147	27876.50	B4DV08;G3V	9	3	30.60	Oxidation (M	4.98	3.97	4.01E-06
P68363	TUBA1B	TBA1B_HUM	451	50245.70		14	14	40.40	Carbamidom	7.80	4.84	5.86E-06
Q9Y310	RTCB	RTCB_HUMA	505	55318.90		15	8	20.80	Gln->pyro-Gl	7.00	3.00	1.28E-06
B4DGM3	SMARCC1	B4DGM3_HU	393	34441.00	J3QK57;K7EN	3	2	15.80		2.00	1.00	2.64E-07
Q08211	DHX9	DHX9_HUMA	1270	141247.00		23	18	15.80	Carbamidom	13.00	8.00	1.41E-06
J3QR48	KPNB1	J3QR48_HU	149	97360.20	Q14974;	4	2	18.10		3.00	1.00	6.63E-07
F5H365	SEC23A	F5H365_HUM	736	86321.40	Q15436;	10	5	8.70	Acetyl (Prote	3.96	1.98	2.39E-07
P23396	RPS3	RS3_HUMAN	243	26743.50		37	15	67.90	Carbamidom	15.62	14.63	1.64E-05
HOY2W2	ATAD3A	HOY2W2_HU	572	58056.10	Q9NVI7;Q9N	7	7	13.80		1.98	1.00	3.41E-07
M0R0F0	RPS5	M0R0F0_HU	200	29121.00	P46782;	12	5	34.50	Acetyl (Prote	5.95	1.98	1.14E-06
B4DKM5	VDAC2	B4DKM5_HU	255	30465.10	P45880;P458	2	2	7.10		1.00	1.00	6.12E-07
H7BYS8	PCMT1	H7BYS8_HUM	286	24717.10	J3KP72;P220	28	11	57.70	Carbamidom	13.86	9.90	9.86E-06
P62081	RPS7	RS7_HUMAN	194	22167.30		8	4	29.40		5.00	2.00	2.26E-06
H3BLZ8	DDX17	H3BLZ8_HU	731	72691.20	Q92841;Q92	12	13	23.70	Carbamidom	7.43	3.96	1.28E-06
E9PH29	PRDX3	E9PH29_HU	238	27477.20	P30048;	8	4	18.50		4.00	3.00	2.50E-06
Q92499	DDX1	DDX1_HUMA	740	82595.90		15	9	15.70	Carbamidom	9.00	4.00	1.30E-06
P54886	ALDH18A1	P5CS_HUMAN	795	87268.60	P54886-2;	7	6	8.10		2.00	1.00	1.02E-06
P23526	AHCY	SAHH_HUM	432	44737.70	P23526-2;	3	2	5.20		5.00	1.00	6.04E-07
G8L8B6	HNRNPH1	G8L8B6_HUM	472	43324.50	P31943;	15	14	41.20	Acetyl (Prote	6.73	3.88	2.32E-06
P51398	DAP3	DAP3_HUMAN	398	43754.80	P51398-2;P5	4	3	10.90		1.00	1.00	3.35E-07
Q43175	PHGDH	SERA_HUMAN	533	56758.50		6	4	9.60		4.00	2.00	9.25E-07
C9J9K3	RPSA	C9J9K3_HU	264	32905.50	P08865;	19	8	44.30	Acetyl (Prote	8.99	3.00	7.02E-06
B4DVY1	EIF3D	B4DVY1_HU	499	64094.50	Q15371;	6	5	10.60	Oxidation (M	3.96	1.98	1.33E-06
Q12905	ILF2	ILF2_HUMAN	390	43143.20		22	10	35.90	Gln->pyro-Gl	9.00	8.00	4.85E-06
Q9Y265	RUVB1	RUVB1_HUM	456	50322.40		8	5	15.60		3.95	1.00	5.80E-07
P60709	ACTB	ACTB_HUMAN	375	41817.80		116	24	64.80	Acetyl (Prote	67.21	29.17	8.73E-05
P12532	CKMT1B; CK	KCRU_HUM	417	47115.30		13	7	18.50	Carbamidom	4.94	4.91	2.11E-06
Q8IXB1	DNAJC10	DJC10_HUM	793	91255.40		10	8	11.50	Carbamidom	7.96	1.99	7.65E-07
K7EJ81	EFTUD2	K7EJ81_HUM	962	105587.00	Q15029;Q15	4	4	5.30		2.00	1.00	1.57E-07
Q9Y222	C14orf166	CN166_HUM	244	28122.80		5	4	27.00		4.00	1.00	1.04E-07
E7ERC4	SSB	E7ERC4_HU	184	46916.20	EP9G9;P054	3	2	23.30		2.00	1.00	8.91E-07
Q12906	ILF3	ILF3_HUMAN	894	96000.50	Q12906-2;Q1	10	8	15.20		6.00	2.00	8.76E-07
P62258	YWHAE	I433E_HUM	255	29227.50		4	3	10.20		0.98	0.99	8.60E-07
P08238	HSP90A1	H90B_HUM	724	83428.20		14	16	22.50	Oxidation (M	6.99	2.99	1.49E-06
P46783	RPS10	RS10_HUMA	165	18921.90		6	5	33.90		4.00	2.00	1.45E-06
P24752	ACAT1	THIL_HUMAN	427	45296.70		13	10	31.90	Carbamidom	6.99	4.00	4.35E-06
P68371	TUBB4B	TBB4B_HUM	445	49925.10		12	24	58.00	Carbamidom	3.54	2.04	2.06E-06
P04843	RPN1	RPN1_HUM	607	68706.90		4	3	6.30		3.00	1.00	2.64E-07
M0KJ65	HNRNPL	M0KJ65_HU	530	50654.60	P14866;P148	9	6	14.90	Carbamidom	5.98	2.00	1.26E-06
Q92506	HSID17B8	DH8B_HUM	261	27028.80		3	3	15.30		2.00	1.00	9.88E-07
P51532	SMARCA4	SMCA4_HUM	1647	188517.00	P51532-2;P5	5	7	4.80		2.99	0.99	1.54E-07
IL3LP7	RPS15A	IL3LP7_HUM	100	14866.00	P62244;	4	3	26.00	Oxidation (M	2.97	0.99	7.75E-06
A8MUB1	TUBA4A	A8MUB1_HU	433	50018.40	P68366;	10	13	37.40	Carbamidom	5.97	1.99	1.59E-06
D6RAN4	RPL9	D6RAN4_HU	182	21903.80	P32969;	4	3	23.60		2.97	0.99	2.47E-06
Q05639	EEF1A2	EF1A2_HUM	463	50964.40		16	11	25.50	Gln->pyro-Gl	4.50	1.50	5.70E-06
P55795	HNRNPH2	HNRH2_HUM	449	49358.40		12	10	31.60	Carbamidom	9.00	2.00	1.97E-06
P07237	P4HB	PDI1_HUM	508	57224.80		17	12	26.00	Oxidation (M	11.81	2.97	3.02E-06
J3QLR8	MRPS23	J3QLR8_HU	152	21811.30	Q9Y309;	3	3	19.70		1.00	1.00	1.59E-06
Q15365	PCBP1	PCBP1_HUM	356	37564.00		16	11	44.10	Acetyl (Prote	10.92	1.97	4.08E-06
A8MX99	MATR3	A8MX99_HU	805	94816.90	P43243;	6	3	5.90		3.96	0.99	2.00E-07
Q13151	HNRNPA0	ROA0_HUM	305	30911.80		8	6	25.90		6.00	2.00	3.28E-06
P52597	HNRNPF	HNRPF_HUM	415	45750.90		12	8	23.10	Acetyl (Prote	9.00	2.00	2.54E-06
P42704	LRPPRC	LRPPRC_HUM	1394	158219.00		3	3	2.80	Carbamidom	2.00	1.00	9.29E-08

Table S3

RIP and Chip q-PCR primer

C3 F	AACAGAAGTACCTGTGCGCC
C3 R	CCAGAGTCATCCCTGCTTC
I3a F	AGGGATGACTCTGGGAGGTAA
I3a R	CTATGAAAGGGTCAGCCTGTG
I3b F	CACAGGCTGACCCTTTCATA
I3b R	ACCTTCTGTTGGCTCCTGAT
I3c F	GCACCATGCTAGGCATTAGA
I3c R	AAAGGCAAGGCCATTTACAC
I3d F	TCCCTTCTCTCCTCTGATGC
I3d R	GGGAGCAGGGAACAGACAAT
CE1 F	AACTAGGAATGTGGCCTTGG
CE1 R	CAATTCAGTTCTATGATGGGA
I3e F	CCTCCATTTGGGTTGTTACC
I3e R	CAAGCCAATTGCCTTGGTCTAAACCA
CE2 F	GGTGATGCAAGTGGGAAGTC
CE2 R	GCTGAGTCACAAGTTGCACA
CE5 F	CGTTGTTAAGAAGTAGAACTAA
CE5 R	AACAGATGAGCTGAAGGCTCT
I3f F	GCAGAAAACCTGGACTGGCA
I3f R	CCATGCCTCATTTTCCACCC
I3g F	TGAAACTGAAAGAGACTGATGACT
I3g R	GCCTAACAGCTCACTAATCAAAG
CE3 F	ACCTCCCCAACTTTACATGCT
CE3 R	CAGGGTCTGGTCATTTTGGAGA
I3h F	GGGCTACTCTTTGATTGCTG
I3h R	GTCCTCACAACATCCCTGTG
I3i F	CTTCTCCCAAGCCAGACTCA
I3i R	CATGTGTGTTTCCCTGGCTT
I3j F	AGGCTAAGTCTTGCCCAAAG
I3j R	GGAGTCAGGATGCCTCATTT
I3k F	TAGGCAGAGAAGCCAGAACA
I3k R	CCCTGTGACCACAGTGGCCC
I3l F	TGAACACTCCTTGGTGCTTT
I3l R	ATGAGGATTTACCAGGCA
C4 F	CACTGAGGAGACAACCCAGA
C4 R	CACTACACCTGGCTCAATGG
I4a F	GGAAAGAACATGAGGTTGGG
I4a R	GAAATTGAGACCCAGAAGGG

siRNA oligo

KDM4B_siRNA1	CUCUUCACGCAGUACAAUA [dT][dT]
KDM4B_siRNA2	CAAAUACGUGCCUACAUA[dT][dT]
AR-V7_siRNA1	GUAGUUGUGAGUAUCAUGA [dT] [dT]

AR-V7_siRNA2 GAGGCUUAGGAGCUUAGGU [dT][dT]

RNA oligo

AR-A1 CAAUGAAACUGAAAGAGACUGAUGACUCUCCUGAGGGUGG (Btn)
AR-A2 CUCAUCUCCAGUCUGAGUAAUAAUGCUUAUAGUAUUAUGG (Btn)
AR-A2 CUCAUCUCCAGUCUGAGUAAUAAUGCUUAUAGUAUUAUGG
AR-A2 mut CUCAUCUCCAGUCUGAGGCCUAAUGCUUAUAGAAUUAUGC
AR-A2-1 CUCAUCUCCAGUCUGAGUAA
AR-A2-2 UAAUGCUUAUAGUAUUAUGC
AR-A2-3 GUCUGAGUAAUAAUGCUUAU

RIP and Chip q-PCR primer

C3 F AACAGAAGTACCTGTGCGCC
C3 R CCAGAGTCATCCCTGCTTC
I3a F AGGGATGACTCTGGGAGGTAA
I3a R CTATGAAAGGGTCAGCCTGTG
I3b F CACAGGCTGACCCTTTCATA

I3b R ACCTTCTGTTGGCTCCTGAT
I3c F GCACCATGCTAGGCATTAGA
I3c R AAAGGCAAGGCCATTTACAC
I3d F TCCCTTCTCCTCTGATGC
I3d R GGGAGCAGGGAACAGACAAT
CE1 F AACTAGGAATGTGGCCTTGG
CE1 R CAATTCCAGTTCTATGATGGGA
I3e F CCTCCATTTGGGTTGTTACC
I3e R CAAGCCAATTGCCTTGGTCTAAACCA
CE2 F GGTGATGCAAGTGGGAAGTC
CE2 R GCTGAGTCACAAGTTGCACA
CE5 F CGTTGTTAAGAAGTAGAACTAA