

Supplementary Table 1

Antibody	Catalog number	Manufacturer	Application
Androgen Receptor	ab74272	Abcam	ChIP-qPCR
RL2	ab2739	Abcam	ChIP-qPCR, western
p-53	sc-126	Santa Cruz Biotechnology	ChIP-seq, western
VPRBP	ab202587	Abcam	Western, IF
OGT	ab177941	Abcam	Western
c-Myc	ab32072	Abcam	Western
β-actin	ab6276	Abcam	Western
Histone H2A phospho T120	ab177391	Abcam	Western
Histone H3 (tri methyl K27)	ab6002	Abcam	Western
Fibrillarin	ab4566	Abcam	Western, IF
RPS8	ab226361	Abcam	Western
RPL5	ab137617	Abcam	Western
G6PD	sc-373886	Santa Cruz Biotechnology	Western
P73	sc-17823	Santa Cruz Biotechnology	Western
P63	12143-1-AP	Proteintech	Western
Cyclin B1	4138	Cell Signaling Technology	Western
PLK1	4513	Cell Signaling Technology	Western
phospho-PP1α	2581	Cell Signaling Technology	Western
phospho-Histone H3 (Ser10)	9701	Cell Signaling Technology	Western
phospho-CDK2	2561	Cell Signaling Technology	Western
CDK2	2546	Cell Signaling Technology	Western
p-FoxM1	14655	Cell Signaling Technology	Western
p-21	2947	Cell Signaling Technology	Western
goat anti-rabbit	7074	Cell Signaling Technology	Western
goat anti-mouse	7076	Cell Signaling Technology	Western
CAMKK2	HPA017389	Sigma-Aldrich	Western
UAP1	HPA014659	Sigma-Aldrich	Western
OGA	HPA036141	Sigma-Aldrich	Western
PWP1	HPA038708	Sigma-Aldrich	Western
Mdm2	OP46	EMD Millipore	Western
Alexa flour 594 Goat Anti Mouse	A11020	Invitrogen	IF
Alexa flour 488 Goat Anti Rabbit	A11070	Invitrogen	IF

Supplementary Table 2

ChIP-qPCR primers	Forward primer	Reverse primer
CAMKK2 promoter	AGAACACTGTAGCTCACACAGGCA	GGGCACTTCCCAACCTTTCTTACT
Negative AR ChIP	AACTCCACATTTCTTAAGTGACC	CCAACCCACACCAAGTACC
VPRBP promoter	CTTGTTCTGACCTGTGTGCG	GAGGCGGAGGTCATAGTGAG
Negative RL2 ChIP	AACTCCACATTTCTTAAGTGACC	CCAACCCACACCAAGTACC
PAICS/PPAT	AGCGTACCAAGTCTTGACGG	CAGCACCCAACAGTAGCGTA
p21 ChIP	ACAGCCAGAAGCTCCAAAAA	TGCCACACACCAGTGACTTT
Negative primer1 p53 ChIP	AACTCCACATTTCTTAAGTGACC	CCAACCCACACCAAGTACC
Negative primer2 p53 ChIP	TGCCACACACCAGTGACT TT	ACAGCCAGAAGCTCCAAAAA

Supplementary Table 3

Sigma KiCqStart™ PrimerPair ID	Gene Symbol	Gene ID	RefSeq ID	Exons	Species
H_VPRBP_1	VPRBP	9730	NM_001171904	7-8	Human
H_CDKN1A_1	CDKN1A	1026	NM_000389	2-3	Human
H_MGEA5_1	MGEA5	10724	NM_001142434	7-8	Human
H_BAX_1	BAX	581	NM_004324	3-4	Human
H_BBC3_1	BBC3	27113	NM_001127240	4-5	Human
H_ZNF337_1	ZNF337	26152	NM_015655	NA	Human
H_DDB2_1	DDB2	1643	NM_000107	5-6	Human

Supplementary Table 4

Gene	Forward primer	Reverse primer
CAMKK2	TGAAGACCAGGCCCGTTTCTACTT	TGGAAGGTTTGATGTCACGGTGGAA
UAP1	TCCCCACTAAAGAATGCT	AATTGCTGGAAGGCGAGA
OGT	GCAGCAGGACCAATTACCTC	GCATACGTTTCGTTGGTTCTG
TP53	GATGGTGGTACAGTCAGAGCC	TCCGAGTGGAAAGGAAATTTGC
RPLPO	ATCAACGGGTACAAACGAGTC	CAGATGGATCAGCCAAGAAGG
β-ACTIN	TGGGACGACATGGAGAAAAT	AGAGGCGTACAGGGATAGCA

Supplementary Table 5

siRNA	Assay ID	Catalog number	Manufacturer
OGT si1	s16094	4390824	Thermo Fisher Scientific
OGT si2	s16095	4390824	Thermo Fisher Scientific
DCAF1 si1	s18762	4392420	Thermo Fisher Scientific
DCAF1 si2	s18763	4392420	Thermo Fisher Scientific
Silencer™ Select Negative Control No. 1 siRNA		4390843	Thermo Fisher Scientific

Supplementary Table 6

Parameter	n evaluable	negative (%)	weak (%)	moderate (%)	strong (%)	p value
All cancers	2216	5.9	10.3	37.6	46.2	
Tumor stage						
pT2	1444	8	11	35.5	45.6	<0.0001
pT3a	468	3.2	7.1	38.9	50.9	
pT3b-pT4	277	0.4	11.6	46.6	41.5	
Gleason grade						
≤3+3	994	9.4	12.6	36.4	41.6	<0.0001
3+4	998	3.5	8.4	37.7	50.4	
3+4 Tert.5	1	0	100	0	0	
4+3	188	1.1	7.4	42	49.5	
4+3 Tert.5	4	0	25	50	25	
≥4+4	28	3.6	10.7	46.4	39.3	
quantitative Gleason grade						
≤3+3	994	9.4	12.6	36.4	41.6	0.0001
3+4 ≤5%	213	6.1	7	31.9	54.9	
3+4 6-10%	241	4.1	12.4	34.9	48.5	
3+4 11-20%	162	2.5	8	39.5	50	
3+4 21-30%	112	1.8	7.1	42	49.1	
3+4 31-49%	77	2.6	6.5	36.4	54.5	
3+4 Tert.5	1	0	100	0	0	
4+3 50-60%	62	1.6	6.5	38.7	53.2	
4+3 Tert.5	4	0	25	50	25	
4+3 61-100%	60	1.7	11.7	40	46.7	
≥4+4	6	0	16.7	16.7	66.7	
Lymph node metastasis						
N0	1083	3.9	9.8	41	45.3	0.392
N+	65	1.5	15.4	41.5	41.5	
Preoperative PSA level (ng/ml)						
<4	333	6	8.1	36.3	49.5	0.3407
04-Oct	1203	5.9	10.2	36.2	47.7	
Oct-20	465	5.8	11.6	41.3	41.3	
>20	169	7.1	10.7	40.2	42	
Surgical margin						
negative	1707	6.9	9.8	38	45.2	0.001
positive	482	2.7	11.6	36.1	49.6	