Supplemental Figure Legends

Fig. S1: Dicer deletion in the Pten null mouse model for prostate cancer. (A): Quantitative RT-PCR analysis of the expression of pre-microRNAs in $Pten^{-/-}$, $Pten^{-/-}Dicer^{-/+}$, and $Pten^{-/-}Dicer^{-/-}$ mice at 15 weeks. **(B):** IHC analysis of phosphor-AKT in prostate tissues from $Pten^{-/-}$, $Pten^{-/-}Dicer^{-/+}$, and $Pten^{-/-}Dicer^{-/-}$ mice at 15 weeks.

Fig. S2: Suppressing Dicer activity enhances cellular apoptosis and senescence in the Pten null mouse model for prostate cancer.

(A): TUNEL analysis, and **(B):** IHC analysis of cleaved caspase 3 with luminal cell marker K8 in prostate tissues from $Pten^{-/-}$, $Pten^{-/-}Dicer^{-/+}$, and $Pten^{-/-}Dicer^{-/-}$ mice at 15 weeks. Bar graphs show quantifications. Data represent means ± SD. *: $p < 0.05$.

Fig. S3: QRT-PCR analysis of expression of pre-microRNAs (A) and microRNAs (B) in DU145 cells that express control shRNA and Dicer shRNAs. Data represent means ± SD. *: $p < 0.05$.

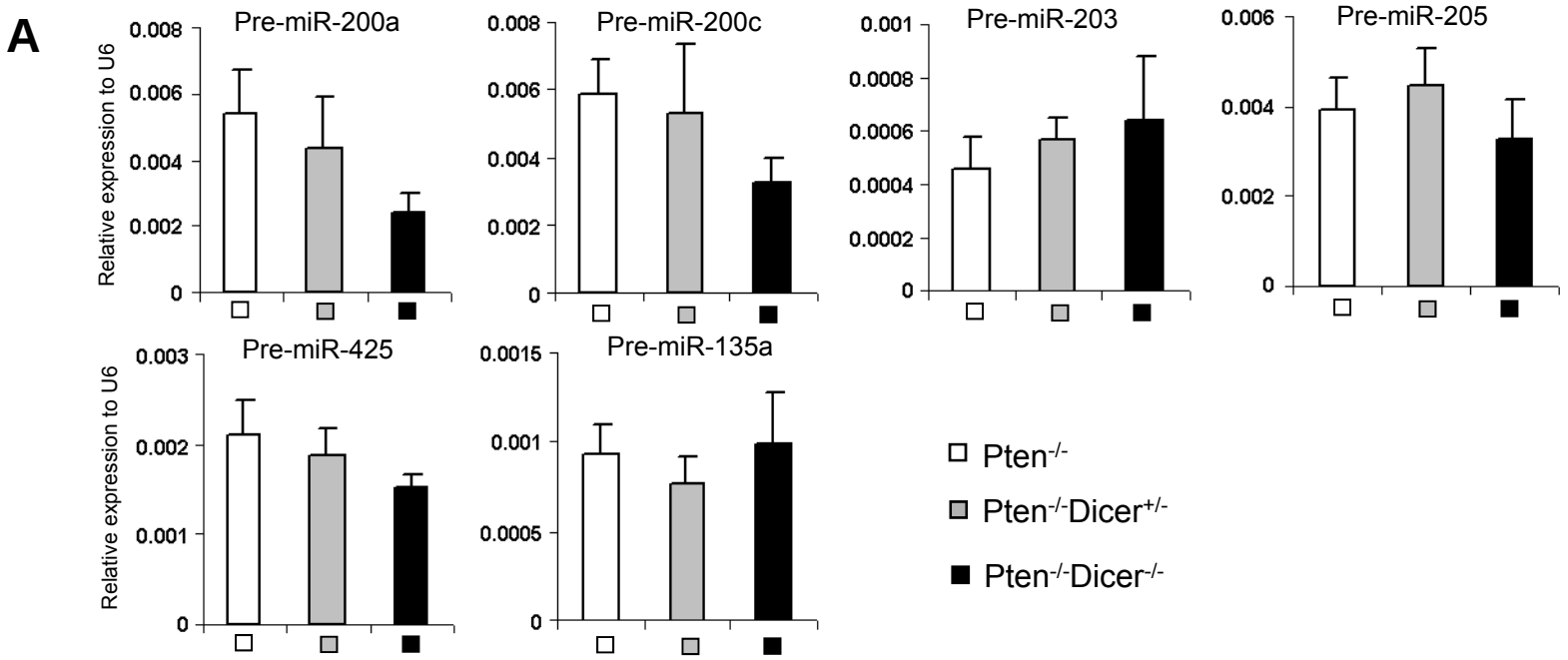
Fig. S4: Suppressing Dicer activity attenuates proliferation and tumorigenesis of the human prostate cancer cells.

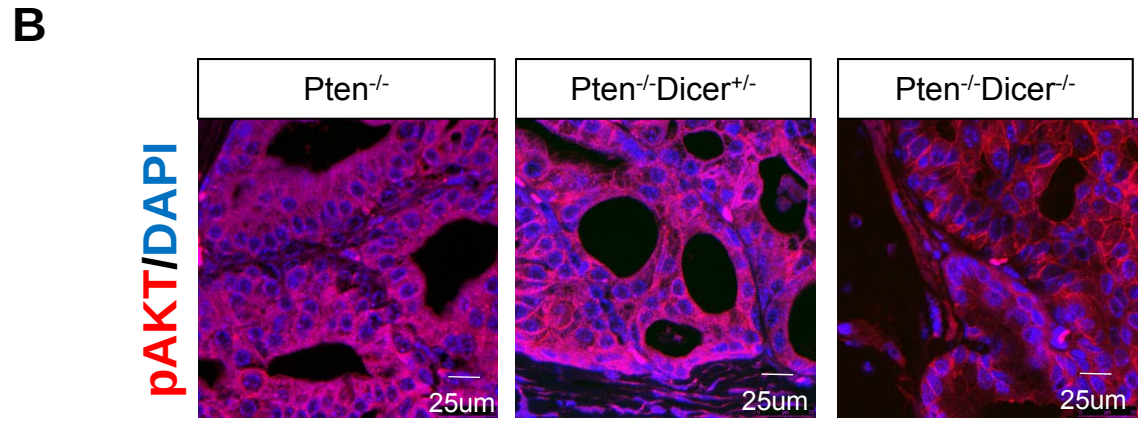
(A-B") Bar graphs show quantification of BrdU positive proliferating cells **(A-A")** and cleaved caspase 3(CC3) positive apoptotic cells **(B-B")** in the control and Dicer shRNA-expressing CWR22Rv1 (A, B), C4-2 (A', B'), and PC3 (A", B") cells in vitro. **(C-C")** Soft agar assay using the control and Dicer shRNA-expressing CWR22Rv1 (C), C4-2 (C'), and PC3 (C") cells. **(D-D")** Bar graphs show quantifications of the soft agar assays. Data represent means ± SD. *: $p < 0.05$. **(E)** MTT assays of PC3, DU145, C4-2, CWR22Rv1, and MCF7. Data represent means ± SD. *: $p < 0.05$.

Table S1: Primers for mouse genotyping and qRT-PCR.

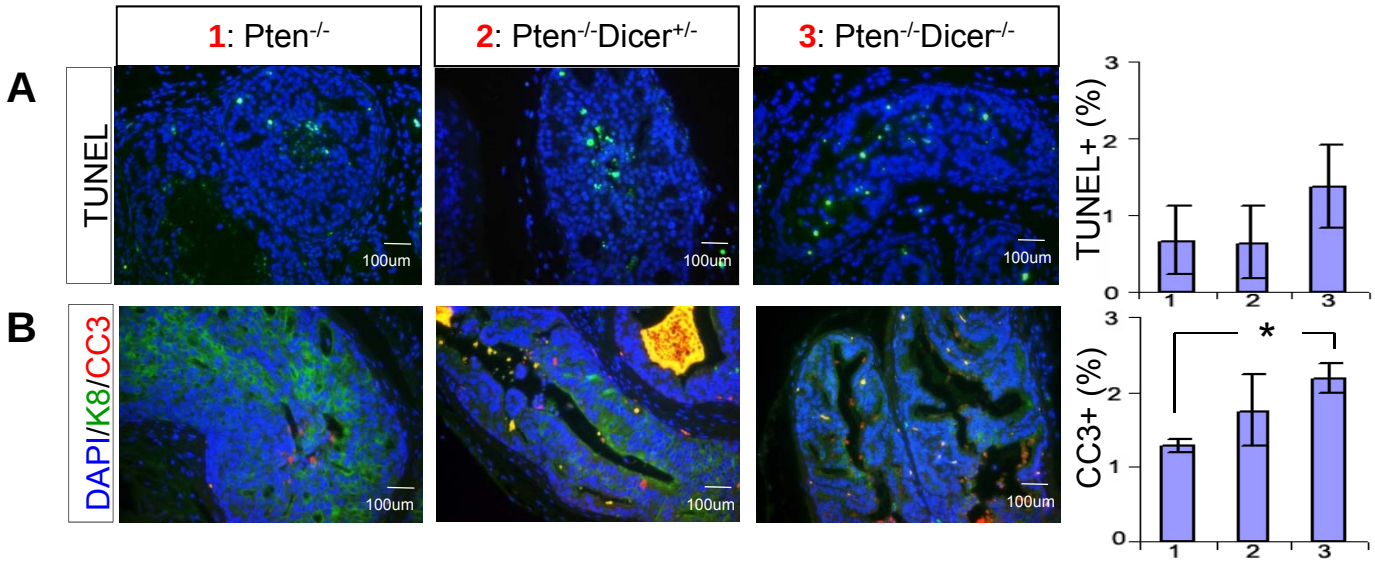
Table S2: Copy number change of Dicer in human prostate cancer specimens and cell lines.

Supplemental Fig. 1

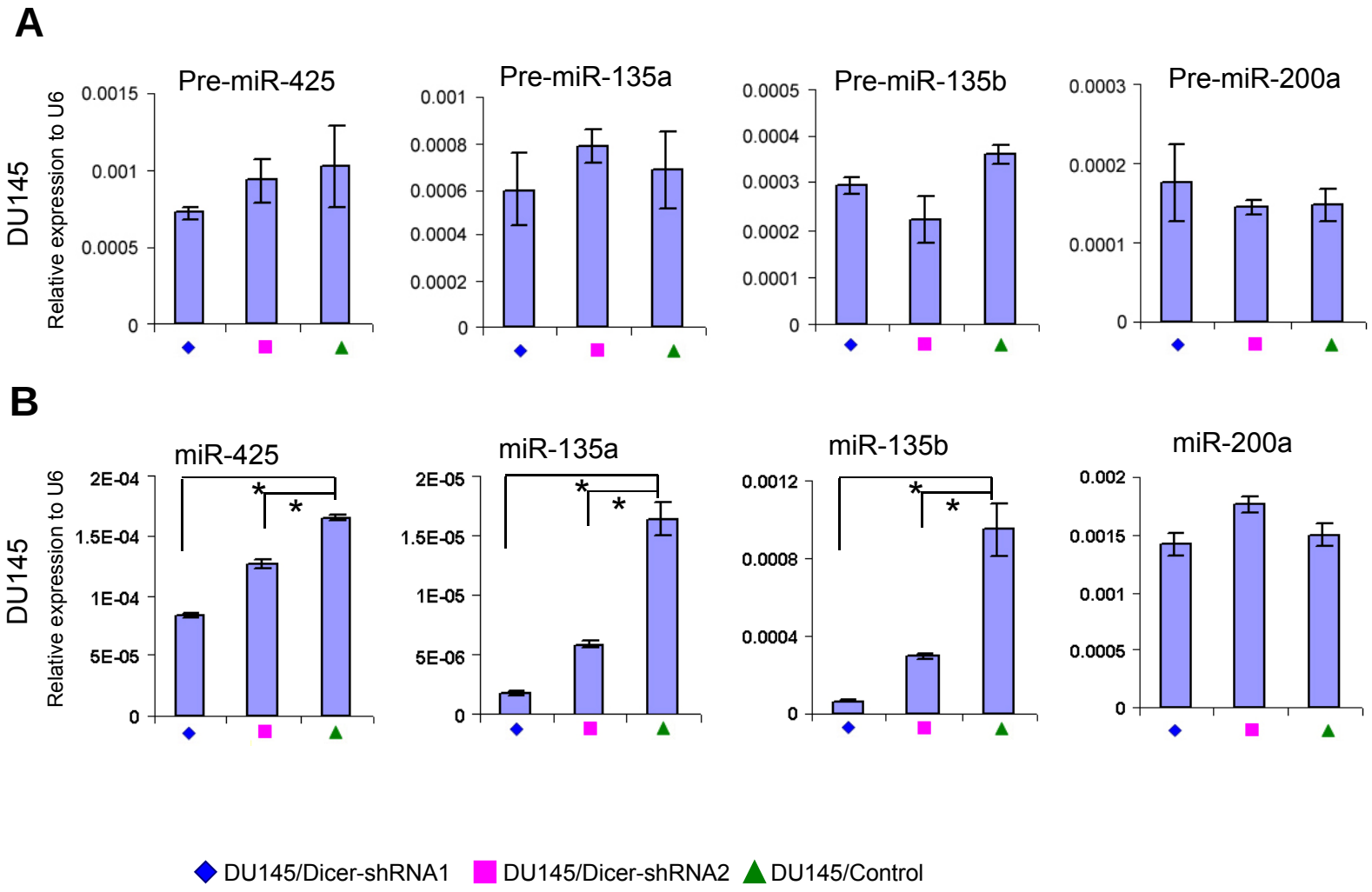




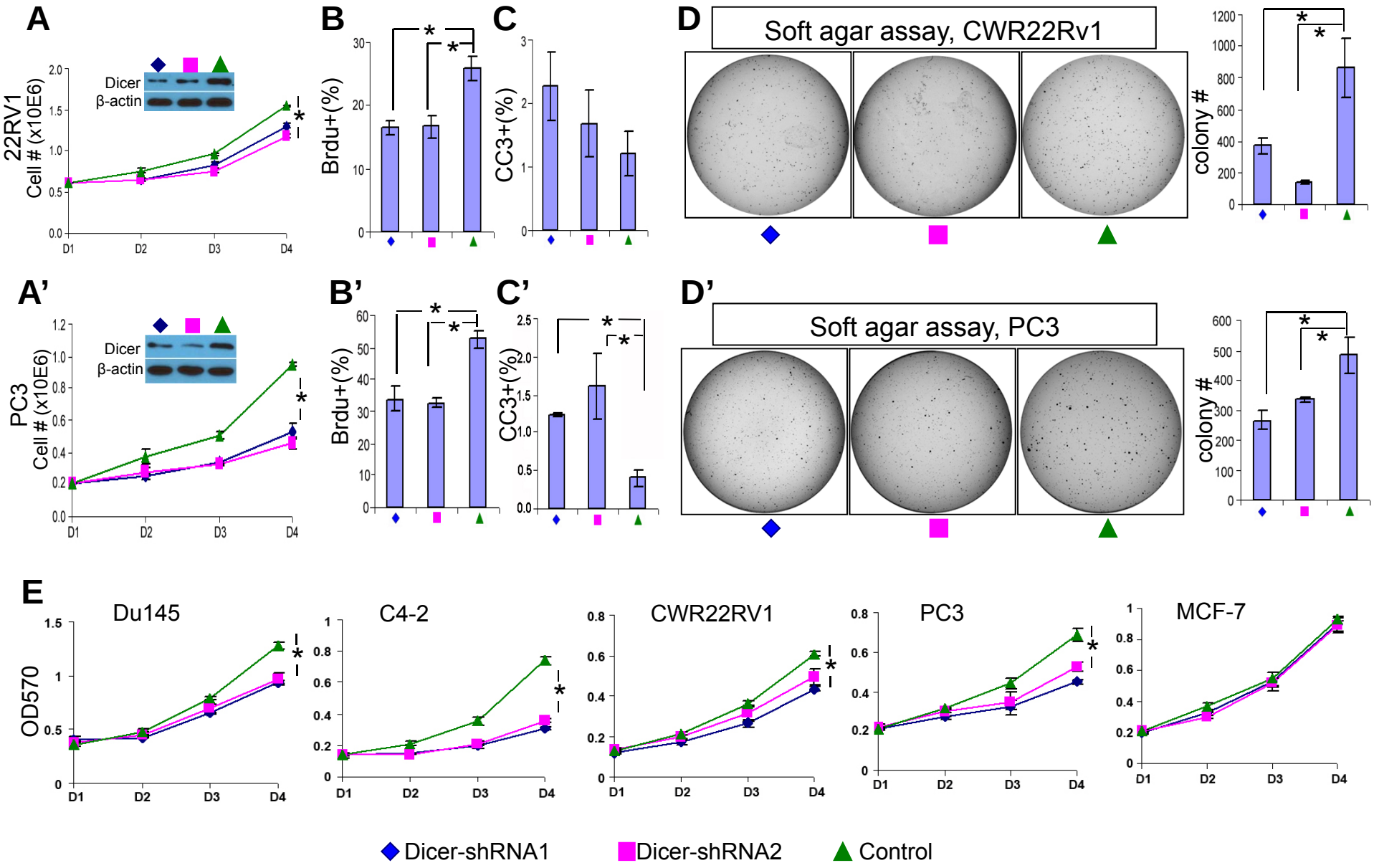
Supplemental Fig. 2



Supplemental Fig. 3



Supplemental Fig. S4



Supplemental Table 1: Genotyping and qRT-PCR primers

Mouse genotyping primers	
Dicer F	cctgacagtgacggtccaaag
Dicer R	catgactcttcaactcaaact
Pten F	caagcactctgcgaactgag
Pten R	aagtttttgaaggcaaga
Cre F	gcctgcattaccggtcgatgcaacga
Cre R	gtggcagatggcgcggcaacaccatt

QRT-PCR primers		
	Mouse	Human
GAPDH F	tgttcctacccccaatgtgt	atgttcgtcatgggtgtgaa
GAPDH R	ggtcctcagtgtagcccaag	agttgtcatggatgaccttgg
Dicer exon24 F	tccaggggtcttgactgact	agcgcttcctttaagcagtg
Dicer exon24 R	ccaatgatgcaaagatggtg	ccacagtgatgctggaattg
Dicer exon21F	gaacatgctgcacatcaagg	
Dicer exon21R	gcaacctttgcagttcaca	
BAX F	gctgatggcaacttcaactg	
BAX R	gatcagctcgggcactttag	
CD95 F	tatcaaggaggcccattttg	
CD95 R	tggtgtacccccattcattt	
Cyclin D2 F	ccacctggatgctagaggtc	
Cyclin D2 R	ccaagaaacggtccaggtaa	
Snail F	cttgtgtctgcacgacctgt	
Snail R	gagcaggagaatggcttctc	
twist2 F	aggacccacctgcacatct	
twist2 R	gtcatgaggagccacaaggt	
CTGF F	aaccgcaagatcggagtgt	
CTGF R	gctgctttggaaggactcac	
FoxC1 F	cggcgagcagagctactatc	
FoxC1 R	tgcgagtacacgctcatagg	
MMP7 F	atcagtgggaacaggctcag	
MMP7 R	tgcatttccttgaggttgtc	
Col5a1 F	tttccctggcatcaacttgt	
Col5a1 R	tcgaggatcaaggtgacattt	
col6a1 F	ctaagcgcttcattgacaacc	
col6a1 R	tgatctccacctcgtcactg	
Tgfβ1F	attcagcgctcactgctctt	
Tgfβ1 R	ggttcatgtcatggatggtg	

QRT-PCR primer for pre-miRNA	
hsa-200a F	cgggcccctgtgagcatc
hsa-200a R	cgggtcacctttgaacatcg
hsa-425 F	aagcgctttggaatgacacg
hsa-425 R	agagcactgggcggacacg
hsa-135a1 F	ggcctcgctgttctctatgg
has-135a1 R	gtccccgccgtgcgccacgg
hsa-135b F	ctctgctgtggcctatggct
hsa-135b R	gagctcgcccctcactgtag
mus-200a F	tgggcctctgtgggcatc
mus-200a R	tgggtcacctttgaacatcg
mus-200c F	ccgtggccatcttactggg
mus-200c R	ccgtcatcattaccaggcag
mus-203 F	cctggtccagtggttcttga
mus-203 R	ccgggtctagtggtcctaaac
mus-205 F	tcttgtccttcattccaccg
mus-205 R	tcctgagcttcactccactga
mus-425 F	agtgctttggaatgacacgatc
mus-425 R	gagcactgggcggacacg
mus-135a1 F	ggcctcactgttctctatggct
mus-135a1 R	atcctcaccgtacgccacg
u6 F	ctcgcttcggcagcaca
u6 R	aacgcttcacgaatttgcgt

Supplemental Table 2: Copy number change of Dicer in human prostate cancer specimens and cell lines

Dice copy number change / Tumor types	No change	-1	-2	+1
PRIMARY (n = 130)	127	2	1	0
MET (n = 19)	12	5	0	2
DU145				yes
LNCaP	yes			
LNCaP104S		yes		
PC3				yes
VCaP	yes			