Appendix Figures/Tables

The Appendix figure/table legends:

Appendix Figure S1. Knocking down circ0084171 alone could also slow down invasion in AR negative J82 cells. Scale bar, 100μm. Data information: Data shown represent the means ± SD (*n* = 3 biological replicates). Student's *t*-test was used for the statistical analysis (**P* < 0.05).

Appendix Figure S2. Representative FISH images using scramble control probe in bladder cancer UMUC3 cells. Scale bar, 20μm.
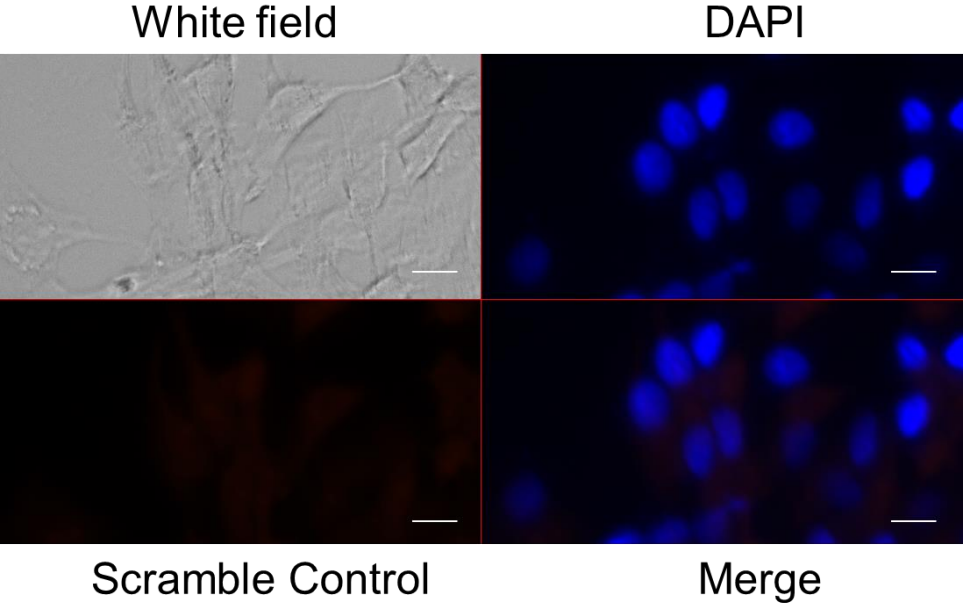
Appendix Figure S3. Western blot result demonstrated 2 specific shRNAs to ADAR2 repress ADAR2 at the protein level.
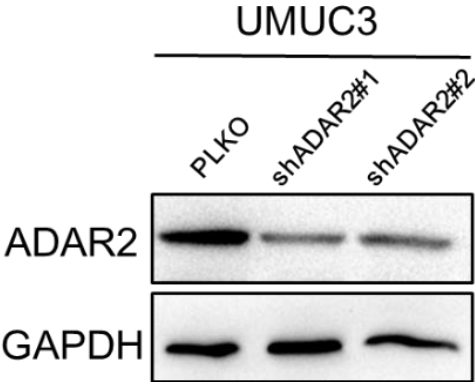
Appendix Figure S4. Original ChIP assay image. ChIP pull-down DNA products were amplified by qRT-PCR reaction. The IgG antibody was used as a negative control. The Left side is: ARE I/II (Input, IgG, AR) and the Right side is: ARE III (Input, IgG, AR).

Appendix Figure S5. RNA pull-down assay results revealed the biotinylated oligo successfully pulled down circFNTA and not linear FNTA. Data information: Data shown represent the means ± SD (*n* = 3 biological replicates). Student's *t*-test was used for the statistical analysis (**P < 0.01, NS=Not significant).
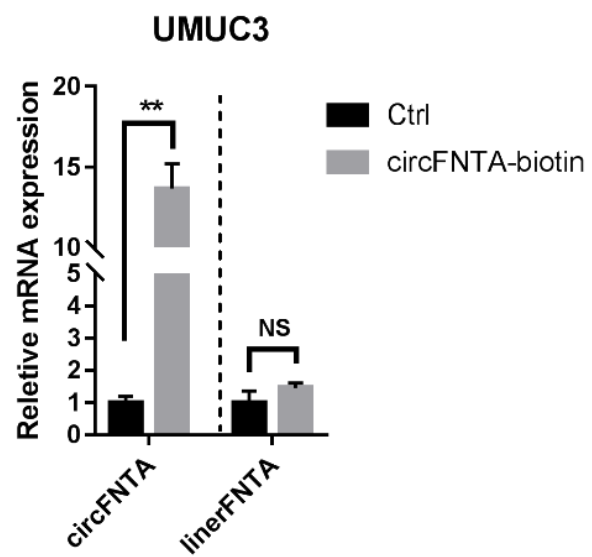
Appendix Figure S6. Transwell invasion assay showed oecirc_0023642 could not rescue shAR induced invasion deduction in UMUC3 cells. Scale bar, 100μm. Data information: Data shown represent the means ± SD ($n = 3$ biological replicates). Student's t-test was used for the statistical analysis (**$P < 0.01$, NS=Not significant).
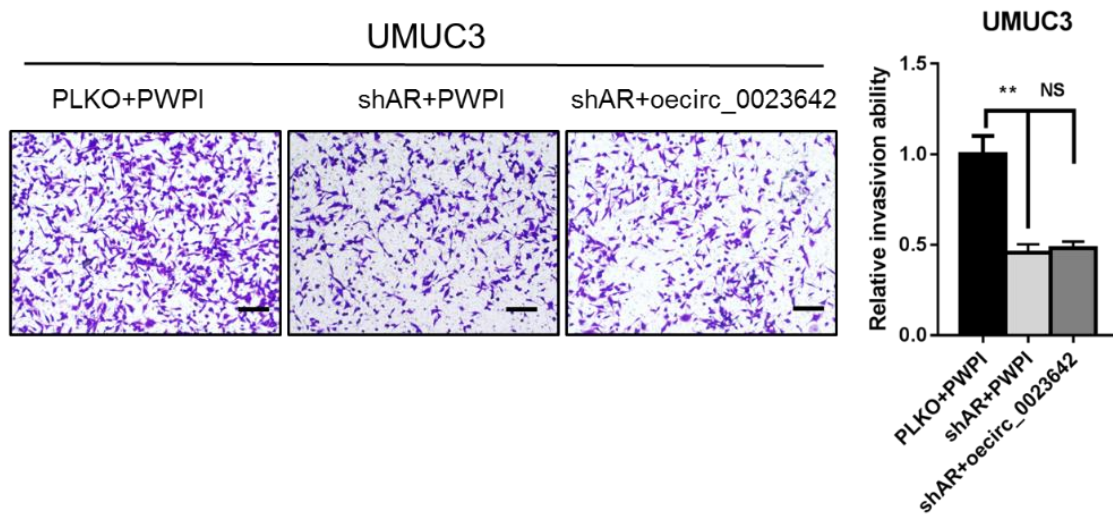
Appendix Figure S7. The representative melting curve of circFNTA qRT-PCR assay in BCa J82 cell.
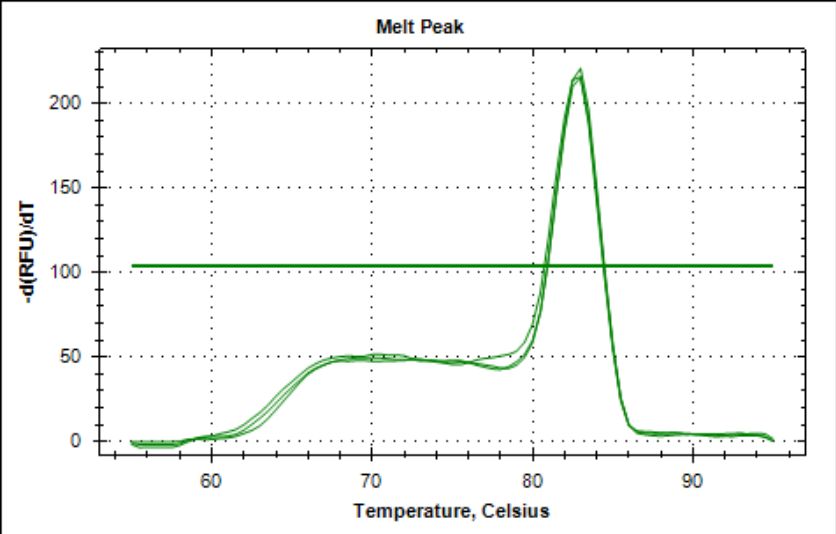
Appendix Figure S8. MTT assays showed shcirc_0084171 could partly reverse oeAR increased cisplatin chemo-resistance (2 g/ml) in J82 cells. Data information: Data shown represent the means ± SD ($n = 3$ biological replicates). Student's t-test was used for the statistical analysis (***$P < 0.001$)
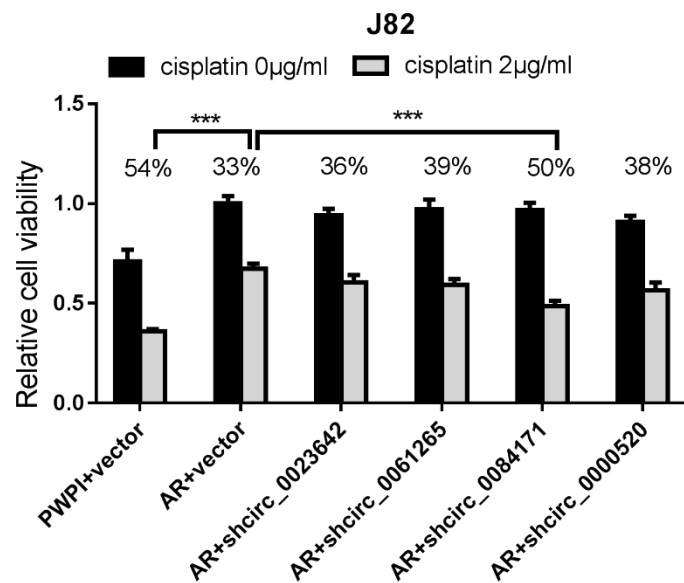
Appendix Figure S9. MTT assays showed oecirc_0084171 could partly overcome shAR effect for cisplatin chemo-resistance (2 g/ml) in UMUC3 cells.

Data information: Data shown represent the means ± SD (n = 3 biological replicates). Student's t-test was used for the statistical analysis (*P < 0.01, ***P < 0.001)
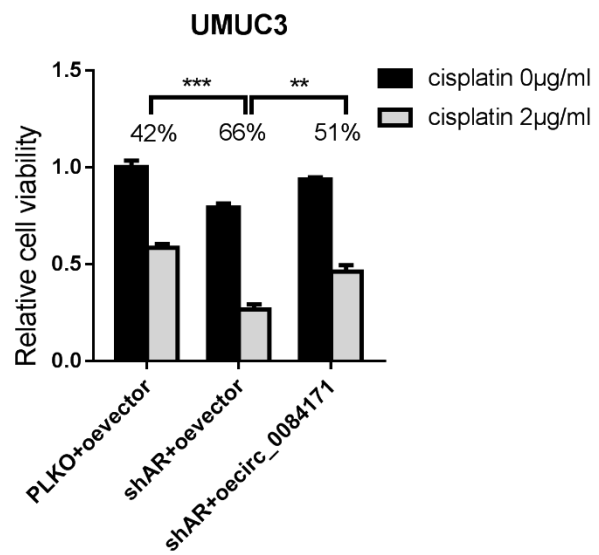
Appendix Figure S10. The qRT-PCR assays also validated circFNTA was significantly elevated in fresh BCa tissues vs. para-tumor tissues (N=19 patients, excluded 4 outliers and re-analyzed the data). Data information: Data shown represent the means ± SD ($n = 3$ biological replicates). Student's t-test was used for the statistical analysis (**$P < 0.01$).
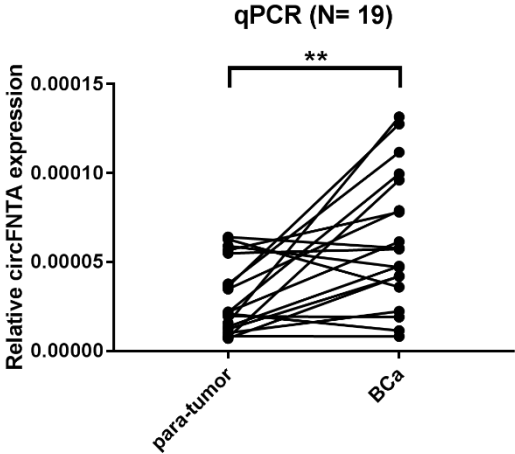
Appendix Table S1. Oligos for plasmid construction.

Plasmid names		Sequences
PLKO-shAR	F	5'CCGGCAATGAACTGGGAGAGAGACACTCGAGTGTCTCTCTCCCAGTTCATTGTTTTTG 3'
	R	5'AATTCAAAAACAATGAACTGGGAGAGAGACACTCGAGTGTCTCTCTCCCAGTTCATTG 3'
PLKO-shcirc_0023642	F	5'CCGGGAGAGACAAAAGATGATGGAAGGATCCTTCCATCATCTTTTGTCTCTCTTTTTG 3'
	R	5'AATTCAAAAAGAGAGACAAAAGATGATGGAAGGATCCTTCCATCATCTTTTGTCTCTC 3'
PLKO-shcirc_0061265	F	5'CCGGGCGGAGAGAGGAGAAATCCCAGGATCCTGGGATTTCTCCTCTCTCCGCTTTTTG 3'
	R	5'AATTCAAAAAGCGGAGAGAGGAGAAATCCCAGGATCCTGGGATTTCTCCTCTCTCCGC 3'
PLKO-shcirc_0000520	F	5'CCGGTTCGGGGAGGGAAGCTCATCAGGATCCTGATGAGCTTCCCTCCCCGAATTTTTG 3'
	R	5'AATTCAAAAATTCGGGGAGGGAAGCTCATCAGGATCCTGATGAGCTTCCCTCCCCGAA 3'
PLKO-shcirc_0084171[#1] (shcircFNTA[#1])	F	5'CCGGAAGTCCAGGACAGAGCAGAATGGATCCATTCTGCTCTGTCCTGGACTTTTTTTG 3'
	R	5'AATTCAAAAAAAGTCCAGGACAGAGCAGAATGGATCCATTCTGCTCTGTCCTGGACTT 3'
PLKO-shcirc_0084171[#2] (shcircFNTA[#2])	F	5'CCGGAAGTCCAGGACAGAGCAGAATACCCGGATCCGTATTCTGCTCTGTCCTGGACTTTTTTTG3'
	R	5'AATTCAAAAAAAGTCCAGGACAGAGCAGAA TACGGATCCGGGTATTCTGCTCTGTCCTGGACTT 3'
PLKO-shADAR2[#1]	F	5'CCG GCC CGT GAT GAT CTT GAA CGA AGG ATC CTT CGT TCA AGA TCA TCA CGG GTT TTT G 3'
	R	5'AAT TCA AAA ACC CGT GAT GAT CTT GAA CGA AGG ATC CTT CGT TCA AGA TCA TCA CGG G 3'
PLKO-shADAR2[#2]	F	5'CCG GCG GAG ATC CTT GCT CAG ATT TGG ATC CAA ATC TGA GCA AGG ATC TCC GTT TTT G 3'
	R	5'AAT TCA AAA ACG GAG ATC CTT GCT CAG ATT TGG ATC CAA ATC TGA GCA AGG ATC TCC G 3'

ADAR2 PGL3 gibson (WT)	F	5'CTA TCG ATA GGT ACC GAG CTA AGG CGT CCC AGG AGT CTT G 3'
	R	5'CCA AGC TTA CTT AGA TCG CAT TCC CGC CGT CTC CTG TTT AG 3'
ADAR2 PGL3 gibson (Mut)	F	5'ATC CCA CCC CAT CCC TGG CT 3'
	R	5'CCT CAG CCA GTC TGG AGG CTG G 3'
PLKO-shFNTA	F	5'CCGGACCAAAGATACTTCGTTATTTGGATCCAAATAACGAAGTATCTTTGGTTTTTTG 3'
	R	5'AATTCAAAAAACCAAAGATACTTCGTTATTTGGATCCAAATAACGAAGTATCTTTGGT 3'
oemiR328-5p	F	5'ATA GAA GAT TCT AGA GCT AGC GGC ATT CAC CTT GGT TCG GAA 3'
	R	5'GCG GAT CCG ATT TAA ATT CGT GGC CCT GGA CAA CAT GTT 3'
oemiR370-3p	F	5'CGC GTA CCA GGT TCC ACC CCA GCA GGC ACC CGG TCG ACG TGC CTG CTG GGG TGG AAC CTG GTT TTT TG 3'
	R	5'CGC AAA AAA CCA GGT TCC ACC CCA GCA GGC ACG TCG ACC GGG TGC CTG CTG GGG TGG AAC CTG GTA 3'
oemiR920	F	5'ATA GAA GAT TCT AGA GCT AGC GTG CAG GAC TCT TAC CAT TTA GC 3'
	R	5'GCG GAT CCG ATT TAA ATT CGA GTC AAA GAG TCT CCT GGG A 3'

Appendix Table S2. qPCR primers.

Genes	F or R	Sequences
hsa_circ_0000144	F	GAG CAA ATT TGG AGC AAA GG
	R	GGG CCT AAG CTA GTC CCT CA
hsa_circ_0000658	F	GAC GAT CTC ATT GCT TGT GG
	R	CTT ACT CAG TGA TGC CCT TGC
hsa_circ_0023642	F	AGG GGT CTA GAT CAA CAA TCA AA
	R	CAT GGA GAC CAG ATG TGC AG
hsa_circ_0002623	F	CGA GTC CCG CTT CTA CAG C
	R	CTC TCC AGT GGG AGG TTG AA
hsa_circ_0032821	F	GGA GCA GCT TCT GGA TGA AA
	R	TCC TGT TCA GTC TCC AAG CA
hsa_circ_0008035	F	GGA ATT GTG ACA AGC CCC TA
	R	CAA AGC CTC CAG GAA TCT GA
hsa_circ_0005273	F	CGT CTA ATC CGA CAG CAA CA
	R	GTG GGC TGG GAT AAA ATC CT
hsa_circ_0084171	F	TCT AAC ACC ACT GGC TAC AAT GA
	R	ATG ATC TGG ACC ACG GGA TT
hsa_circ_0058058	F	GGA CTA TGT GGT GGT GTC CA
	R	CGG TCA GGT TTC TTG CAA AT
hsa_circ_0061265	F	TGC CAT CTA ACT CCG CTG AC

	R	CCG GGT CCA CTA GAT GTC TG
hsa_circ_0001336	F	CAA AAA TGC CAT GGA GGC TA
	R	CTG CCA AGT GCT GGC TGA T
hsa_circ_0041103	F	AGC AGA CAG ACC TCC CTG AG
	R	AAC GCA CAT TCC ATG CTG TA
hsa_circ_0047322	F	TAA GGC AGC CAA GAG TCG TT
	R	TAA GGT TGA CCC CTG CCA TA
hsa_circ_0072088	F	ATG GTC TGC AGT CCT GTG TG
	R	TGG TGG CAT GTT TTG TCA TT
hsa_circ_0008558	F	GGC AGA AGG ACA GCA TAA GG
	R	GGG TTG TTC ACT CCC ACA GT
hsa_circ_0041151	F	TGC AGG AAG AAA GTC TGC AC
	R	CCT AAT CTG CGG ATC TCC AA
hsa_circ_0011385	F	CTG GCC ATG AGA GTG GAG AG
	R	CTT GTC CGT GGA GAA CAT GA
hsa_circ_0060219	F	TGG AGG AGG AGA ACG AAG AG
	R	TGC AGC TGA TAC ACG TCC TC
hsa_circ_0000520	F	GGG AAG GTC TGA GAC TAG GG
	R	GGA CAT GGG AGT GGA GTG AC
hsa_circ_0003528	F	GTA ACC AGC AGC CTG GAC TC
	R	GCA ACT TGC TGA CCA GAA CA

hsa_circ_0003266	F	AGT TGA CAG CGG TAC CAT CC
	R	GTA GGT TCG GCA AGT CCT CA
hsa_circ_0092342	F	AAG TGG GTT GGC AGT CTT TC
	R	GCC AGA GTT TTG TAA GGG AAG
hsa_circ_0007158	F	AGA TTT TGG GCT TCA CAT GC
	R	CCA GCA TAT CCA CAG GGA AT
hsa_circ_0028173	F	GCG GGC AAT CTA CAA CAA C
	R	ATC TTG GTT GAC AGC TCG TG
hsa_circ_0009361	F	GCC GAG CAA CTT AAG AAC CA
	R	AGT GCT CTT CAA TGC CAC CT
hsa_circ_0040039	F	ACA TCG GGA TCT GTC ATC CT
	R	TCC CAC GGC AGA TCT GAT AC
hsa_circ_0092340	F	ATAGGCATAACCCACCATGC
	R	TGAACCCAGGAGGCTAAAGA
hsa_circ_0082582	F	TGGAAAGGCTTTTGGTTCAC
	R	CAGCTTCAGCTGCTCCTTTT
hsa_circ_0050867	F	TTTCCTAGCCGGACTACGTG
	R	CTCCTGGTCATTCCGGTTC
hsa_circ_0079480	F	GAAACCCAGAAGTTACTGAGCA
	R	TTCACTTTTCAGCACTTCTTCAA
linerFNTA	F	CCT GCA GCG TGA TGA AAG AA

	R	ACT CGC CTA TGA TGC CAA AC
AR	F	CCAGGGACCATGTTTTGCC
	R	CGAAGACGACAAGATGGACAA
GAPDH	F	TGTGGGCATCAATGGATTTGG
	R	ACACCATGTATTCCGGGTCAAT
FNTA	F	TGGACGACGGGTTTGTGAG
	R	ACCGGATCTATATCAGCCCATT
ADAR	F	CTG AGA CCA AAA GAA ACG CAG A
	R	GCC ATT GTA ATG AAC AGG TGG TT
QKI	F	AAG CCC ACC CCA GAT TAC CT
	R	ACT CTG CTA ATT TCT TCG TCC AG
ADAR2	F	GTG AAG GAA AAC CGC AAT CTG G
	R	CAG GAG TGT GTA CTG CAA ACC
DHX9	F	ACA CAG GTT CCC CAG TTC AT
	R	ATA CTG GCA TGA GGA CGA GG
ADAR2 AREI/II	F	5'AGT CGG AGT CTC AGT GTT GC 3'
	R	5'GGG AGT AAG AGA CCA TCG CA 3'
ADAR2 AREIII	F	5'TCC GGT CAG TGA AAA CGT TG 3'
	R	5'ACG TTT AGG TGA TGG TGG TT 3'