Supplementary Figures

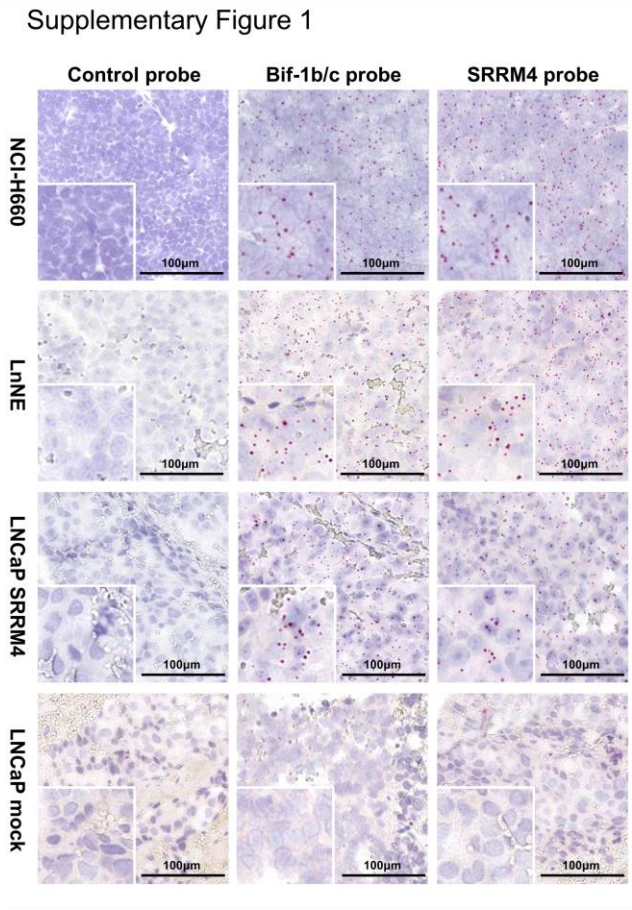

Figure S1. Control, neural-specific Bif-1 variants and SRRM4 RISH probes were applied to tissue slides from NEPC (NCI-H660 and LnNE) xenografts and AdPC (LNCaP) xenografts. These assays confirmed the specificity of the RISH probes in detecting Bif-1 and SRRM4 genes.

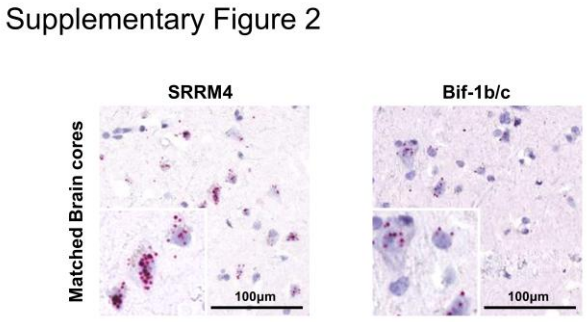

Figure S2. RISH assays detect SRRM4 and neural-specific Bif-1 variants in brain tissues.

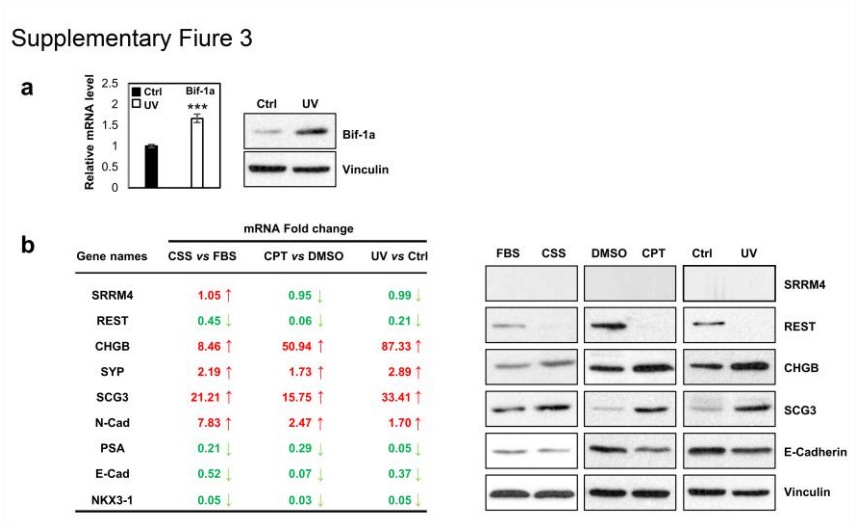

Figure S3. (a) LNCaP cells were exposed to ultraviolet light (UV light, 6 mJ/cm^2). Bif-1a mRNA and protein levels were measured by real-time qPCR and immunoblotting assays.
(b) LNCaP cells were treated with charcoal stripped serum, 8μM CPT or UV light irritation (6 mJ/cm^2). Total RNA was extracted and used to measure mRNA levels of SRRM4, AdPC markers (NKX3.1, PSA, and E-Cad) and NEPC markers (N-Cad, REST, CHGB, SYP and SCG3) by real-time qPCR. SRRM4, REST, CHGB, SCG3, and E-Cad protein levels were measured by immunoblotting.

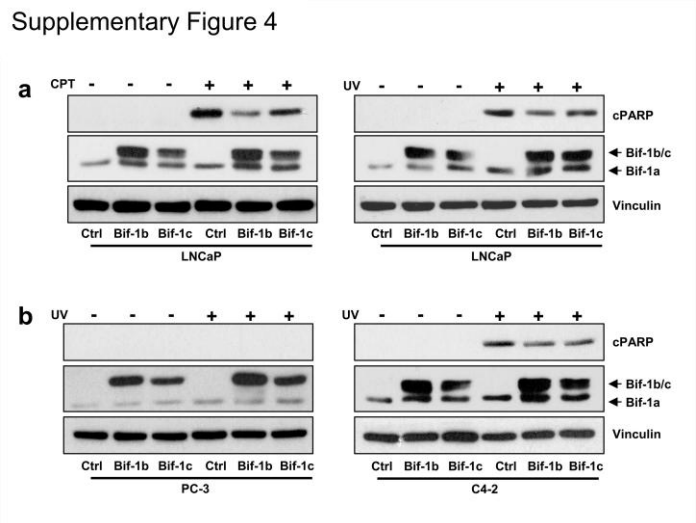

Figure S4. LNCaP cell lines were infected by lentivirus encoding control, Bif-1b or Bif-1c. Cells were treated with 8μM CPT for 24 hours or exposed to UV light (6 mJ/cm^2) in **(a)**. PC-3 and C4-2 cells were infected by lentivirus encoding control, Bif-1b or Bif-1c **(b)**. Cells were exposed to UV light (10 mJ/cm^2 for PC-3, 6 mJ/cm^2 for C4-2). Cleaved PARP, Bif-1 and vinculin protein levels were measured by immunoblotting.

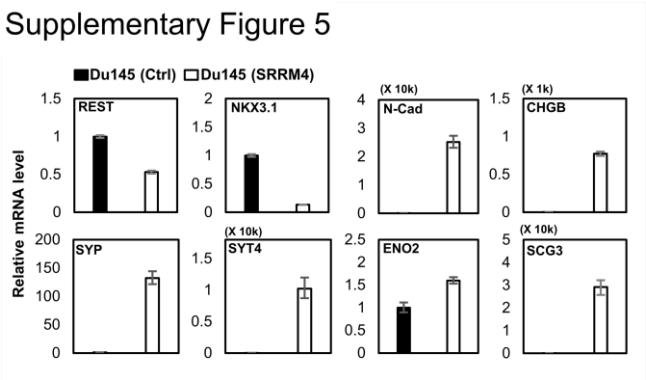

Figure S5. Real-time qPCR measured the expression of REST, NKX3.1, N-Cad, CHGB, SYP, SYT4, ENO2 and SCG3 genes in DU145 cells expressing Ctrl or SRRM4.

Supplementary table 1. Information on primers involved in the study.

Gene name	Sequence (5'- 3')
SRRM4 F	AGCTCCAAGAAACATAAGCGAC
SRRM4 R	CCGTCTTTTGCTTTTAGGGCTAC
Bif-1a F	GCTGCAGAAACTAGAAATTCATCT
Bif-1a R	CCCAGTTGTTTCTGGAGGTC
Bif-1b F	AAGAGACTGGATTTGGATGCTG
Bif-1b R	ACCTCCTCTGCCCAAATCATA
Bif-1c F	TGCATGTAAAATGGCTGAAGAT
Bif-1c R	CAAAGTCATTCAGACAGCGAAG
GAPDH F	GGACCTGACCTGCCGTCTAGAA
GAPDH R	GGTGTCGCTGTTGAAGTCAGAG
Bif-1 Regular PCR F	AAGGCAAAAGCTGCAGAAACTA
Bif-1 Regular PCR R	TCTGCTTGACGATCAAATTCAC
Bif-1 exon6 CHIP F	TTTGTTTCACTGTGTTCATTGG
Bif-1 exon6 CHIP R	TTCAAGGCGAGCTGAGTTTAGT
Bif-1 exon7 CHIP F	GATTCTGAAAAAGAGTATGCCATT
Bif-1 exon7 CHIP R	CTCCTCTGCCCAAATCTAGC
GAPDH exon7/8 CHIP F	GGCATGGACTGTGGTCATGAG
GAPDH exon7/8 CHIP R	TGCACCACCAACTGCTTAGC
NKX3.1 F	CCCACACTCAGGTGATCGAG
NKX3.1 R	GAGCTGCTTTCGCTTAGTCTT
PSA F	AGTGCGAGAAGCATTCCCAAC
PSA R	CCAGCAAGATCACGCTTTTGTT
E-Cadherin F	ATTTTTCCCTCGACACCCGAT
E-Cadherin R	TCCCAGGCGTAGACCAAGA
N-Cadherin F	TGCGGTACAGTGTAACTGGG
N-Cadherin R	GAAACCGGGCTATCTGCTCG
REST F	GCCGCACCTCAGCTTATTATG
REST R	CCGGCATCAGTTCTGCCAT
SYP F	TTAGTTGGGGACTACTCCTCG
SYP R	GGCCCTTTGTTATTCTCTCGGTA
Chromogranin B F	CGAGGGGAAGATAGCAGTGAA
Chromogranin B R	CAGCATGTGTTTCCGATCTGG
SCG3 F	GTCTTCATCAACTAGACGGGACT
SCG3 R	ACAATCTTGTCAAACACGGCTC
SYT4 F	TGACCCGTACATCAAAATGACAA
SYT4 R	GTGGGGATAAGGGATTCCATAGA
ENO2 F	CCGGGAACTCAGACCTCATC
ENO2 R	CTCTGCACCTAGTCGCATGG

Supplementary table 2. Information on antibodies involved in the study.

Antibody	Clone ID	Cat No.	Supplier
Bif-1	30A882.1.1	NBP2-24733	Novus Biologicals
Vinculin	hVIN-1	V9131	Sigma-Aldrich
NSE		ab53025	Abcam
SYP		sc-17750	Santa Cruz
Cleaved PARP		9541S	Cell Signaling Technology
Flag	M5	F4042	Sigma-Aldrich
REST	EPR2436Y	Ab75785	Abcam
Chromogranin B		sc-1489	Santa Cruz
SCG3		sc-1492	Santa Cruz
E-Cadherin		14472	Cell Signaling Technology
AR (N-20)		sc-816	Santa Cruze
PSA (C-19)		sc-7638	Santa Cruze
SRRM4		ab112092	Abcam

Supplementary table 3. Detailed RISH scores of Bif-1b/-1c and SRRM4 in the castration-resistant TMA.

	RISH Score	
Morphology	SRRM4	Bif-1b/-1c
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	1	1
AdPC	1	1
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	1	1
AdPC	1	2
AdPC	0	0
AdPC	0	1
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
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AdPC	0	0
AdPC	0	0

AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	0	0
AdPC	1	1
AdNC	1	1
AdNC	1	1
AdNC	1	1
AdNC	1	1
AdNC	2	1
AdNC	2	1
SCNC	2	2
SCNC	2	2
SCNC	1	1
SCNC	2	2
SCNC	2	2
SCNC	2	2