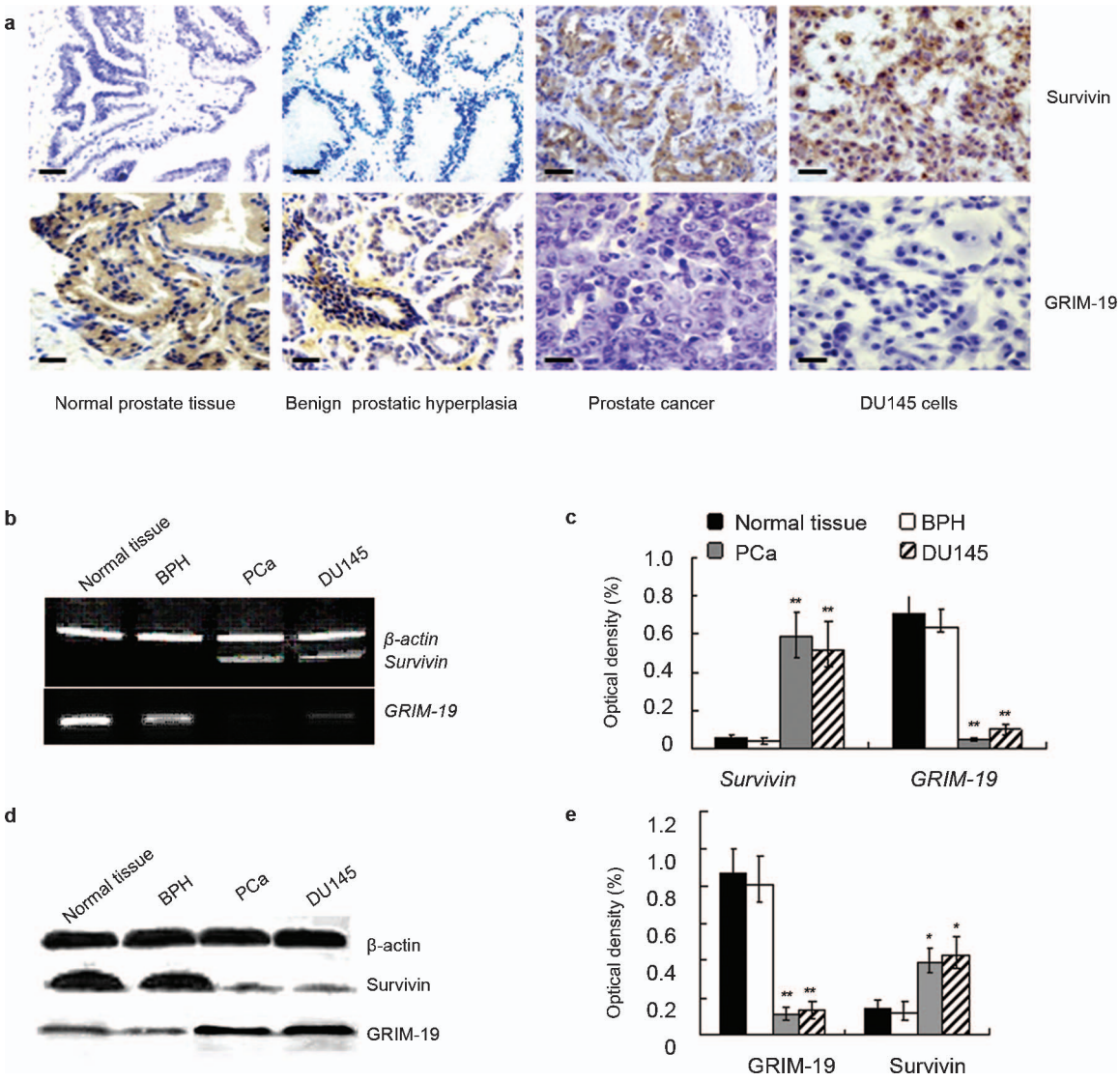
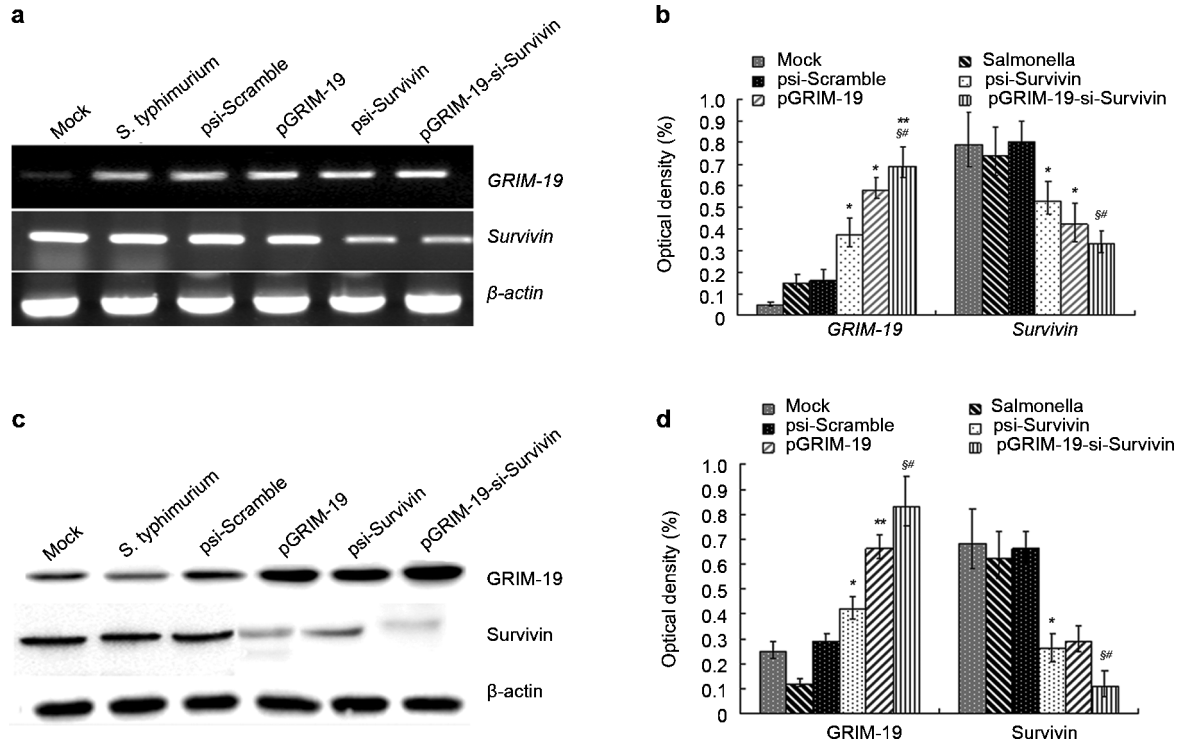


Supplemental Figure 1 Survivin and GRIM-19 expression in normal prostatic tissue, benign prostatic hyperplasia, prostatic cancer tissue and DU145 cells. (**a**) Immunohistochemical analysis of Survivin and GRIM-19 expression (scale bar=20 μm). (**b**) RT-PCR analysis of *Survivin* and *GRIM-19* mRNA. (**c**) The quantified *GRIM-19* and *Survivin* level. (**d**) GRIM-19 and Survivin protein level revealed by Western blot. (**e**) The quantified GRIM-19 and Survivin protein level. Optical density was expressed as mean±s.e., $*P<0.05$, $**P<0.01$ *versus* normal prostate. GRIM-19, gene associated with retinoid-interferon-induced mortality-19; RT-PCR, reverse transcription PCR.



Supplemental Figure 2 RT-PCR and Western blot analyses of *Survivin* and *GRIM-19* mRNA and corresponding protein in DU145 xenografts treated with attenuated *Salmonella* carrying different treatment plasmids. (**a**) RT-PCR analyses for *Survivin* and *GRIM-19* mRNA levels in xenografts treated with attenuated *Salmonella* carrying various treatment plasmids after 2× intraperitoneal injections. (**b**) Quantified *Survivin* and *GRIM-19* mRNA levels in xenografts post-treatment. (**c**) Western blot analyses of Survivin and GRIM-19 protein levels in xenografts post-treatment. (**d**) Quantified Survivin and GRIM-19 protein levels. Optical density was expressed as mean±s.e. (**P*<0.05, ***P*<0.01 *versus* Mock groups; $^{\#}P$<0.05 *versus* psi-Survivin; $^{\S}P$<0.05 *versus* pGRIM-19 groups). GRIM-19, gene associated with retinoid-interferon-induced mortality-19; RT-PCR, reverse transcription PCR.

Supplemental Table 1 PCR primers

Gene	*The sequences of the primers*	*Length (bp)*
Stat3	Forward: 5′-TTGCCAGTTGTGGTGATC-3′ Reverse: 5′-AGACCCAGAAGGAGCCGC-3′	315
Caspase3	Forward: 5′-AGAACTGGACTGTGGCATTG-3′ Reverse: 5′-TTCTGTTGCCACCTTTCG-3′	241
Cyclin D1	Forward: 5′-CCTGTGCTGCGAAGT GGAAA-3′ Reverse: 5′-GATGGAGTTGTCGGTGTAGAT-3′	382
VEGF	Forward: 5′-GGATGTCTATCAGCGCAGCTAC-3′ Reverse: 5′-TCACCGCCTCGGCTTGTCACAT-3′	454
c-Myc	Forward: 5′-CTGCTGCCA AGAGGGTCA-3′ Reverse: 5′-CGTTTCCGCAACAAGTCC-3′	310
BcL-xL	Forward: 5′-ACAGCTGGTGGTTGACTTTCT-3′ Reverse: 5′-CCGGAAGAGTTCATTCACTAC-3′	379

Abbreviations: BcL-xL, B-cell lymphoma xL; Stat3, signal transducer and activator of transcription 3; VEGF, vascular endothelial growth factor.

Supplemental Table 2 Immunohistochemical analysis of Survivin expression in normal prostatic tissue, benign prostatic hyperplasia tissue and prostatic cancer tissue

Tissue type	n	*Low*	*Moderate*	*Strong*	*Negative*	*expression (%)*
Normal prostatic tissue	16	1	0	0	15	6.15
Benign prostatic hyperplasia	22	3	1	0	18	18.18
Prostatic cancer tissue	32	3	6	20	3	90.62

$\chi^2 = 42.261$, $P<0.01$ represent significant difference among the three groups. There is no obvious difference between normal prostatic tissue group and benign prostatic hyperplasia ($\chi^2 = 0.0005$, $P>0.05$), while there is a significant statistical difference between normal prostatic tissue group and prostatic cancer tissue ($\chi^2 = 18.9$, $P<0.01$). There is also a significant difference between benign prostatic hyperplasia and prostatic cancer tissue ($\chi^2 = 25.82$, $P<0.01$).

Supplemental Table 3 Immunohistochemical analysis of GRIM-19 expression in normal prostatic tissue, benign prostatic hyperplasia and prostatic cancer tissue

Tissue type	n	*Low*	*Moderate*	*Strong*	*Negative*	*expression (%)*
Normal prostatic tissue	16	2	3	9	2	87.50
Benign prostatic hyperplasia	22	4	2	12	4	81.82
Prostatic cancer tissue	32	2	1	0	29	9.36

$\chi^2 = 39.034$, $P<0.01$ represent significant difference among the three groups. There is no obvious difference between normal prostatic tissue group and benign prostatic hyperplasia ($\chi^2 = 0.0006$, $P>0.05$), while there is a significant statistical difference between normal prostatic tissue group and prostatic cancer tissue ($\chi^2 = 25.14$, $P<0.01$). There is also a significant difference between benign prostatic hyperplasia and prostatic cancer tissue ($\chi^2 = 25.83$, $P<0.01$).

Supplemental Table 4 Proliferation and apoptosis of cancer cells (mean±s.e.)

Group	*PI (%)*	*AI (%)*
Mock	81.2±7.4	2.9±1.0
psi-Survivin	26.2±4.5**#	14.2±7.4*#
pGRIM-19	29.9±5.6**#	11.2±6.8*#
pGRIM-19-si-Survivin	9.4±2.9**	27.9±7.2**
psi-Scramble	72.8±6.3	5.5±3.4

Abbreviations: AI, apoptosis index; PI, proliferation index.
*$P<0.05$, **$P<0.01$ *versus* psi-Scramble; #$P<0.05$ *versus* pGRIM-19-si-Survivin.