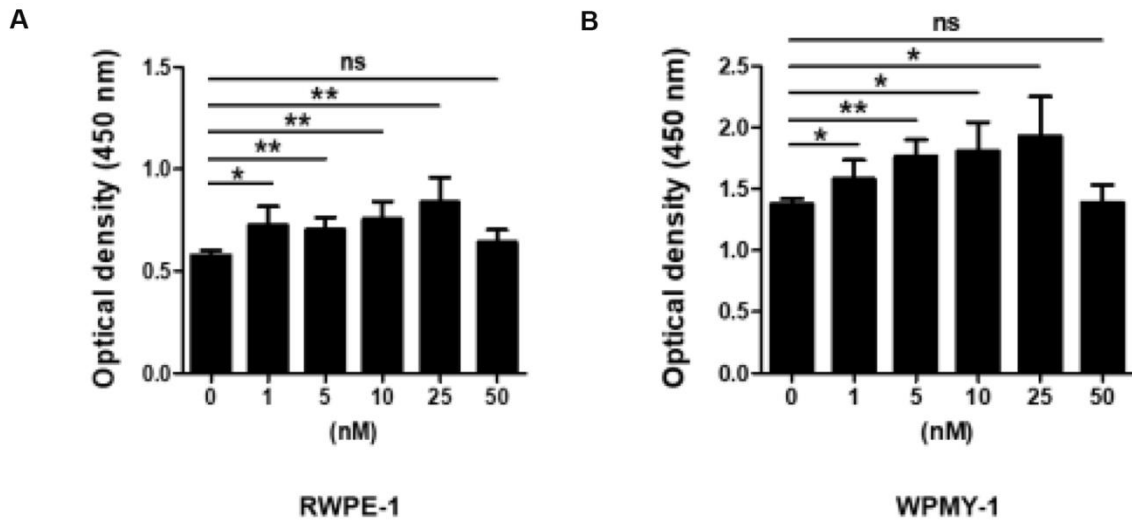
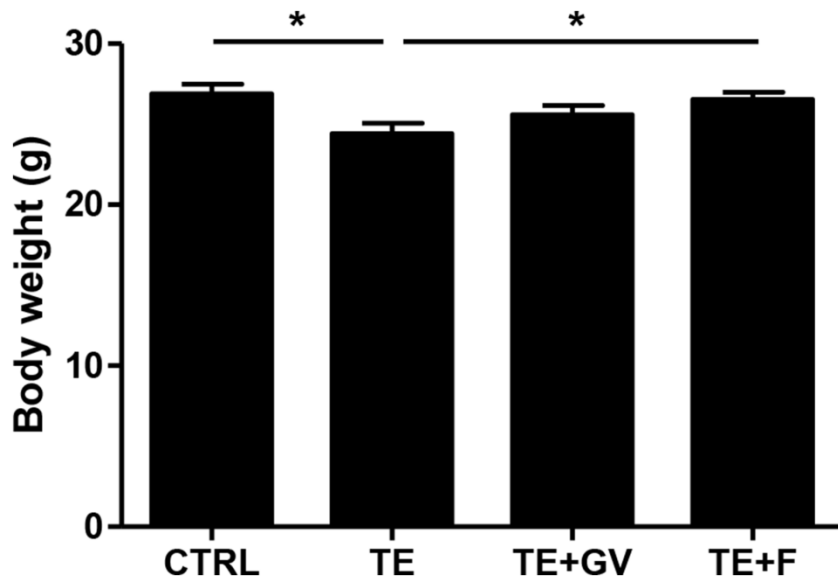


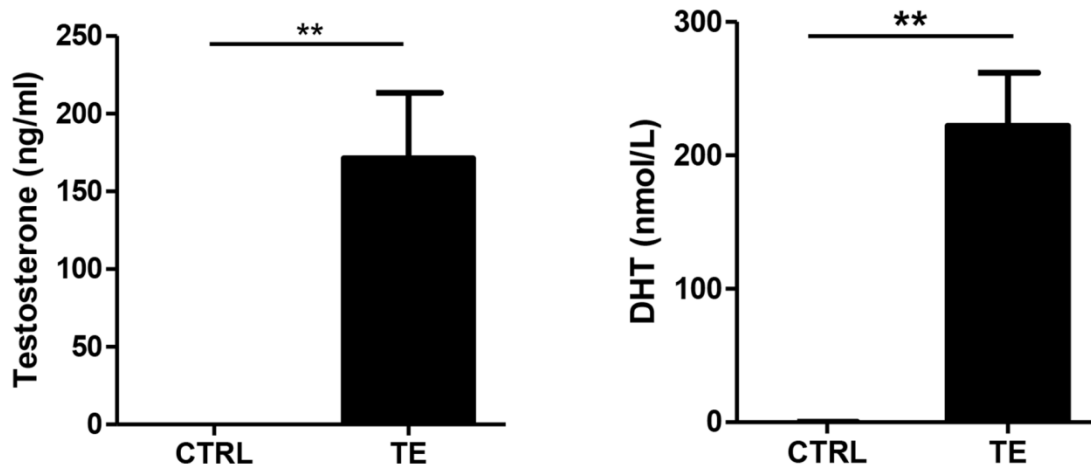
SUPPLEMENTARY FIGURES



**Supplementary Figure 1. Proliferation of prostatic epithelial and stromal cells treated with DHT.** (A) Prostatic epithelial cell line RWPE-1 and (B) prostatic stromal cell line WPMY-1 were exposed to various concentrations of DHT for 48 h, and cell proliferation was examined in a CCK-8 assay. Proliferation increased in a dose-dependent manner. \*p<0.05, \*\*p<0.01.



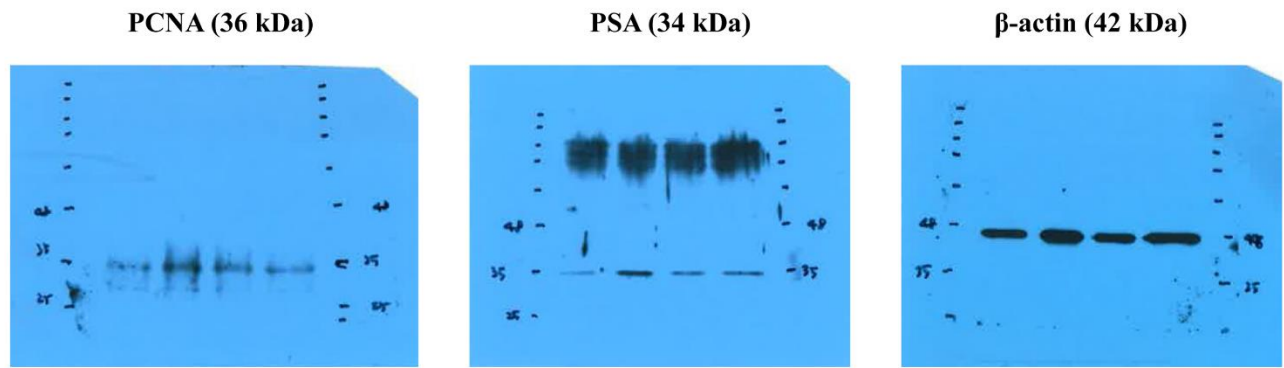
**Supplementary Figure 2. Body weight of TE-induced BPH mice.** BPH mice received GV1001 (GV, 250 µg/head) or Finasteride (F, 100 mg/kg) for 2 weeks. Body weight was measured at the end of the experiment. \*p<0.05.



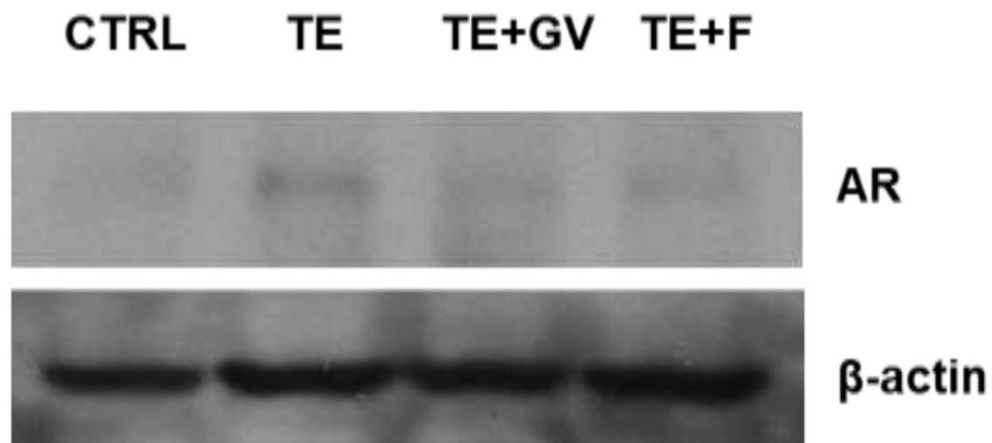
**Supplementary Figure 3. Testosterone and DHT levels in TE-induced BPH mice.** Mice were injected with TE via an osmotic pump (TE release; 0.11  $\mu$ l/h) over a period of 2 weeks. \*\* $p < 0.01$ .



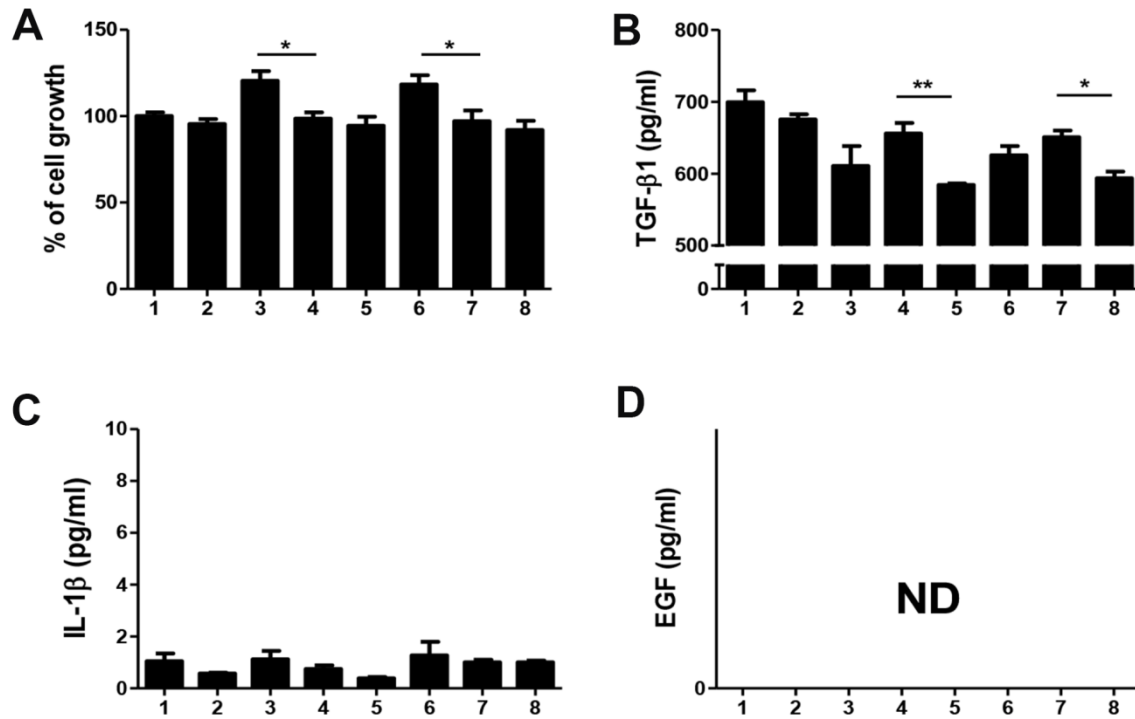
**Supplementary Figure 4. GV1001 and Finasteride have no effect in BPH mice.** BPH mice received GV1001 (GV, 250  $\mu$ g/head) or Finasteride (F, 100 mg/kg) for 2 weeks. Prostates were then excised for examination.



Supplementary Figure 5. Full blot from Figure 3F.



Supplementary Figure 6. GV1001-mediated downregulation of androgen receptor expression in the prostate of BPH mice. Expression of AR in testosterone-induced BPH mice was measured by immunoblotting after treatment with GV1001 or Finasteride.



**Supplementary Figure 7. GV1001-mediated reduction of TGF-β1 production in mitomycin C-treated RWPE-1 and WPE1-NA22 cells co-cultured with WPMY-1.** RWPE-1 and WPE1-NA22 cells were treated with mitomycin C (10 μg/ml) for 2 h. Then, cells were co-cultured with WPMY-1 for 48 h. Groups are as follows: 1, WPMY-1 only ( $5 \times 10^5$  cells); 2, WPMY-1 + GV1001 (100 μM); 3, WPMY-1 + RWPE-1 ( $2.5 \times 10^5$  cells); 4, WPMY-1 + Mitomycin C-treated RWPE-1; 5, WPMY-1 + Mitomycin C-treated RWPE-1 + GV1001 (100 μM); 6, WPMY-1 + WPE1-NA22 ( $2.5 \times 10^5$  cells); 7, WPMY-1 + Mitomycin C-treated WPE1-NA22; and 8, WPMY-1 + Mitomycin C-treated WPE1-NA22 + GV1001 (100 μM). (A) Percent cell growth was calculated as follows: % cell growth = (the number of WPMY-1 cells/the following number as above)  $\times$  100. (B–D) Supernatants were collected, and the quantity of IL-1β, EGF, and TGF-β1 was measured by ELISA. Each sample was measured in triplicate, and results are representative of three independent experiments. Data are presented as the mean  $\pm$  SD. \* $p < 0.05$ , \*\* $p < 0.01$ .