

Supplemental Figure Legends:

FIG. S1. Comparison of pre-castration ventral prostate volumes. A. Top: Box plot of pre-castration ventral prostate volumes for each of the genotypes and for the younger *lpr* mice. Bottom: Results of ANOVA using Dunnett's test for difference from the wild type (WT) for each of the groups. N = 4 for each group except WT and 90 d old *lpr*, where n = 8. B. Bland Altman analysis of inter-observer correlation of volume of the ventral prostate for a subset of the regression data, n=24. The intersection of the X and Y axis indicate the bias of observer 2 and dotted lines represent 1 SD of bias.

FIG. S2. FasL is not necessary for prostate regression following castration. VP volume was calculated from MR images for WT and 3 or 6 mo old *lpr* mice before castration (P) as well as 4 and 8 d following castration. Note that the WT and 6 mo old *lpr* data is also shown in Fig. 1 of the text, but is included here for comparison. Data for each group is plotted as percentage of pre-castration volume (n = 4 for each genotype). Bars = SEM.

FIG. S3. TUNEL does not reveal a difference in apoptotic rates regardless of TNF signaling blockade. WT mice were treated with sTNFR2-Fc or PBS and prostates harvested 48 h following castration. A. TUNEL staining of VP sections from mice pre-treated with PBS or sTNFR2-Fc, 48 h post-castration. Representative photomicrographs from two animals per treatment (400x magnification). Left panels show Hoechst staining (blue), and right panels show TMR-dUTP (red) TUNEL labeling in the same section. B. Epithelial cells positive for TUNEL labeling from 3 mice (12 glands) were counted. Cells positive for TUNEL staining are indicated in columns, SE by bars. Symbols indicate values for individual mice in each group (n = 3). B.

FIG. S4. Blockade of TNF signaling in WT mice in the absence of castration does not lead to hypertrophy over 24 d. WT mice were treated with sTNFR2-Fc or PBS according to the schedule shown below; arrows indicate days of injection. The data for day eight of WT + PBS is also shown in Fig. 7 of the main text. VP volume was calculated from MR images and plotted as a percentage of pre-treatment volume. Bars = SEM. The volume of dorsal-lateral lobes of the prostate was also quantitated and similar results were observed (DNS).

FIG. S5. Membrane-bound TNF protein level increases following castration. A-C, Three replicate immunoblot sets showing β -actin and TNF levels in rat VP tissue extracts before (0) and at six time-points following castration. Each immunoblot includes a TNF standard (TNF+) in duplicate. Relative normalized TNF levels (calculated as described in the Materials and Methods) are indicated below each sample. The data is plotted in Fig. 4 of the main text.