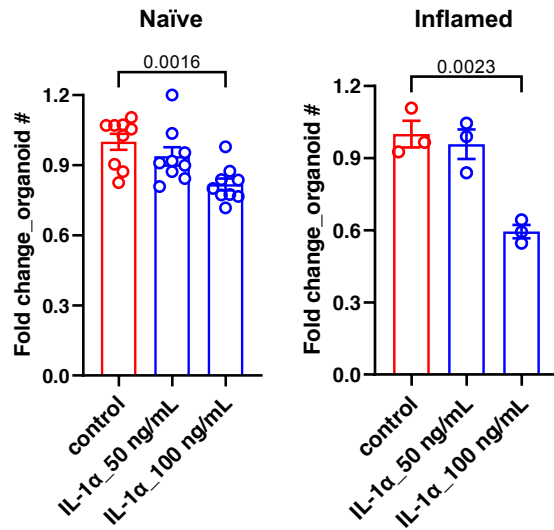
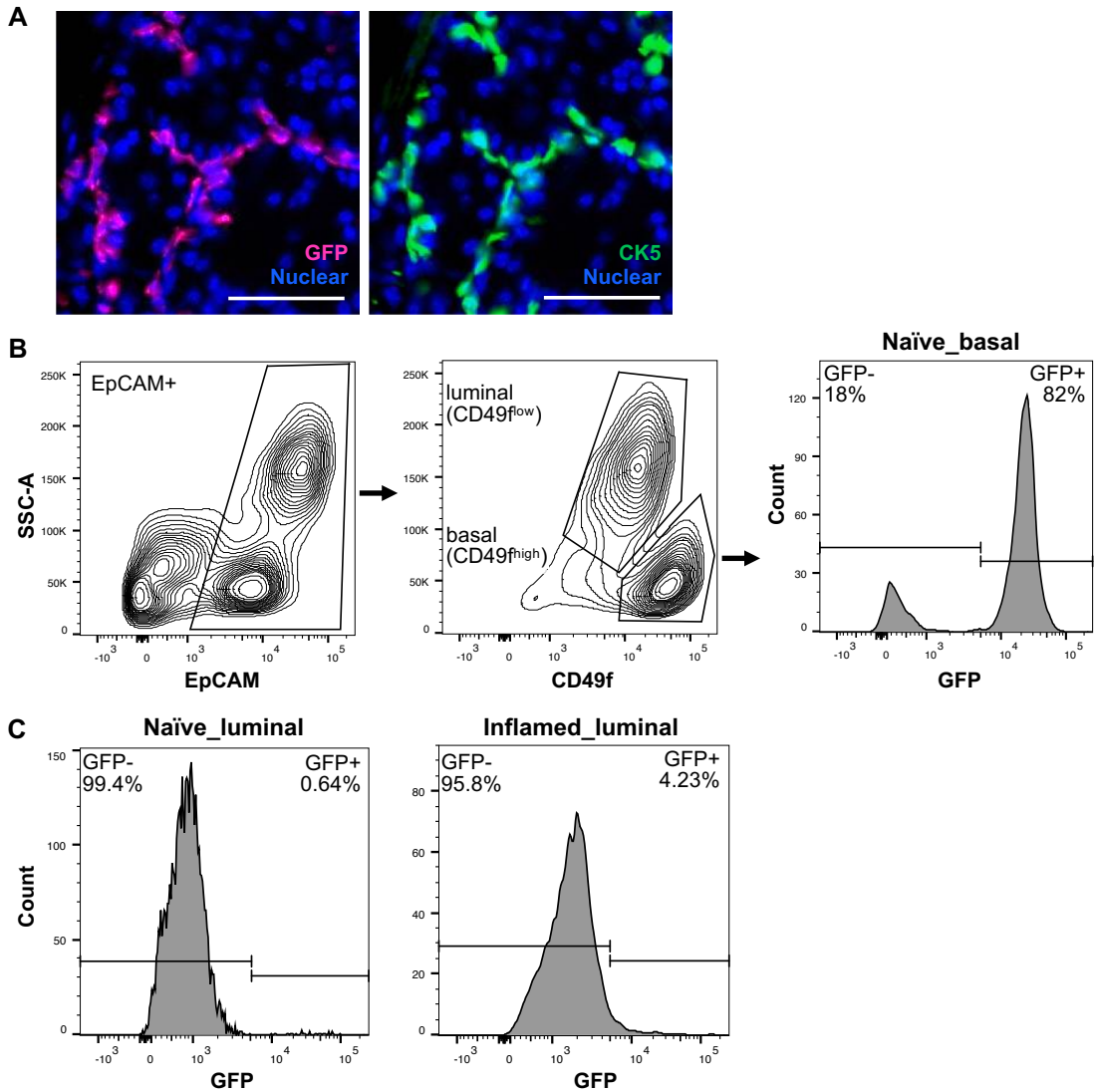


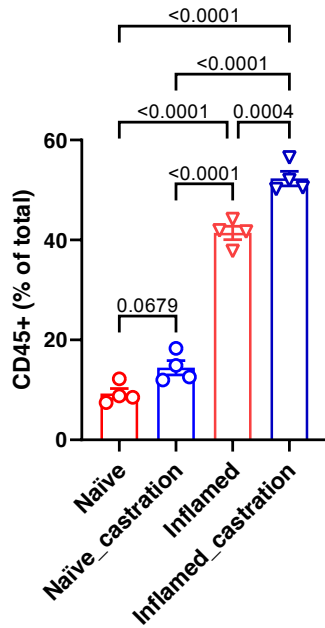
Supplementary Figure 1. Heatmaps of AR signaling target genes as analyzed with PCR Arrays. (A) Naive and inflamed bPSC (All groups, n=3). **(B)** Naive and inflamed organoids (All groups, n=3).



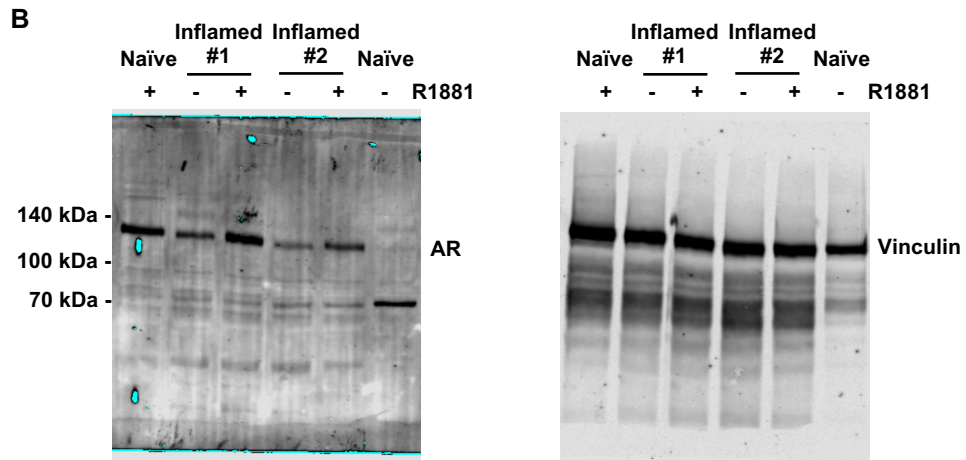
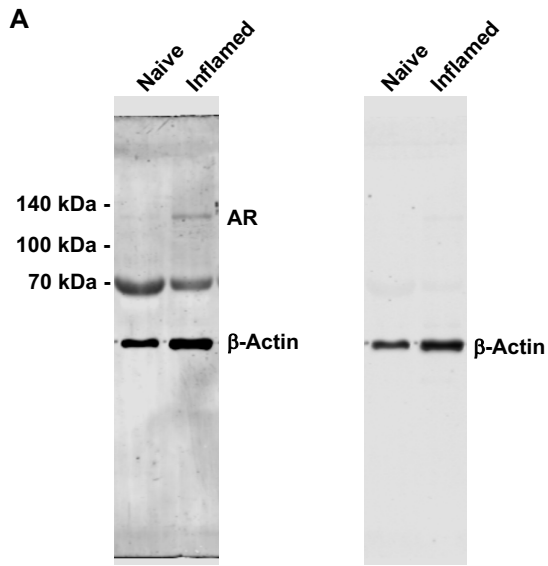
Supplementary Figure 2. IL-1 α inhibits organoid formation with both naïve and inflamed bPSC. Naïve groups, n=9; Inflamed groups, n=3. Data presented in this figure are mean \pm SEM.



Supplementary Figure 3. GFP induction in basal prostate epithelium and presence of GFP+ cells in luminal epithelium after inflammation. (A) Tamoxifen treatment induced GFP in CK5+ basal epithelial cells as shown with immunofluorescent staining (Scale bar, 50 μ m). **(B)** Flow cytometry confirmed the induction of GFP in EpCAM+/CD49f^{high} basal cells. **(C)** GFP+ cells within the luminal epithelial population (EpCAM+/CD49f^{low}) were increased with inflammation.



Supplementary Figure 4. CD45+ leukocyte infiltration was increased in inflamed POET3 prostates with or without castration. All groups, n=4. Data presented in this figure are mean \pm SEM.



Supplementary Figure 5. Uncropped Western blot images for Fig. 1C (A) and 1F (B).

Supplementary Table 1. AR target genes upregulated in inflamed bPSC

Gene Symbol	Fold Regulation	p-value	RefSeq
<i>Aldh1a3</i>	13.4233	0.000939	NM_053080
<i>Pmepa1</i>	9.6242	0.004442	NM_022995
<i>Tmprss2</i>	8.7746	0.000045	NM_015775
<i>Adamts1</i>	7.0128	0.000843	NM_009621
<i>Lrrfip2</i>	6.9967	0.000012	NM_027742
<i>Abhd2</i>	6.8369	0.00086	NM_018811
<i>Mme</i>	5.9932	0.004442	NM_008604
<i>Acsl3</i>	5.8835	0.000531	NM_001033606
<i>Sgk1</i>	4.5736	0.000357	NM_011361
<i>Rel</i>	3.9086	0.044072	NM_009044
<i>Eil2</i>	3.2944	0.000446	NM_138953
<i>Vapa</i>	3.1895	0.002297	NM_013933
<i>Zbtb16</i>	2.8879	0.002752	NM_001033324
<i>Fkbp5</i>	2.8089	0.035092	NM_010220
<i>Slc45a3</i>	2.8024	0.009049	NM_145977
<i>Map7d1</i>	2.7959	0.044072	NM_144941
<i>Endod1</i>	2.7638	0.044739	NM_028013
<i>Tsc22d1</i>	2.6208	0.006968	NM_009366
<i>Tpd52</i>	2.3674	0.000125	NM_009412
<i>Tiparp</i>	2.2658	0.038166	NM_178892
<i>Pak1ip1</i>	2.2553	0.000012	NM_026550
<i>Stk39</i>	2.0753	0.008354	NM_016866
<i>Snai2</i>	2.0658	0.001819	NM_011415

Supplementary Table 2. AR target genes upregulated in inflamed organoids

Gene Symbol	Fold Regulation	p-value	RefSeq
<i>Igfbp5</i>	9.9365	0.007704	NM_010518
<i>Slc26a2</i>	5.8675	0.016003	NM_010513
<i>Steap4</i>	5.2394	0.00112	NM_013584
<i>Ar</i>	3.8444	0.002925	NM_013476
<i>Zfp189</i>	2.6197	0.018571	NM_145547
<i>Sord</i>	2.4051	0.006992	NM_019928
<i>Jun</i>	2.3995	0.014287	NM_010591
<i>Lama1</i>	2.2544	0.034606	NM_008480
<i>Cited2</i>	2.1377	0.031692	NM_010828