Supplemental Figure Legends

Supplemental Figure 1. **Human cancer cell lines cells do not proliferate in response to estrogen and do not express abundant ERs. (A)** Expression analysis of ERα mRNA and protein in MCF7 cells (positive control) as well as ERα-negative cell lines DU4475, PC3, and SUM1315 cells. **(B)** Expression analysis of ERβ mRNA and protein in MCF7, DU4475, PC3, and SUM1315 cells. **(C)** Proliferation growth curves of cell lines treated with or without 1nM 17β-estradiol. The ERα-positive MCF7 cell line proliferation was stimulated by estrogen while the other lines were not.

Supplemental Figure 2. Characterization of GFP^+ BMDCs recruited to matrigel plugs in response to estrogen. Representative immunofluorescence images of **(A)** CD31 and **(B)** αSMA on frozen sections of Matrigel plugs harvested from NOD/SCID-GFP BMT mice treated with 17β-estradiol (1.5mg) pellets. Bone marrow cells (green); specific marker (red); nuclei were counterstained with DAPI (not shown).

Supplemental Figure 3. Characterization of GFP^+ BMDCs recruited to ER-negative tumors in response to estrogen. Representative immunofluorescence images of **(A)** CD45, **(B)** CD31, **(C)** αSMA, and **(D)** F4/80 on frozen sections of SUM1315 tumors harvested from NOD/SCID-GFP BMT mice treated with 17β-estradiol (0.5mg) pellets. Bone marrow cells (green); specific marker (red); nuclei/DAPI (blue).

Supplemental Figure 4. ER expression in bone marrow cells in response to E2.

Quantitative RT-PCR was performed on RNA from freshly isolated bone marrow of C57Bl/6

female mice treated with 17β-estradiol (1.5mg) or placebo pellets. Expression of ERα and ERβ transcripts were normalized to GAPDH and plotted relative to placebo treated marrow.

Supplemental Figure 5. ER expression levels in primary macrophages and RAW264.7 macrophages. Quantitative RT-PCR was performed on RNA isolated from primary mouse macrophages and RAW264.7 macrophages. Relative expression of ERα and ERβ transcripts were normalized to GAPDH and plotted.