**Supplementary Figure 1.**

**A)** Western blot of Hif-1α/Hif-2α protein expression in PyMT-WT and EO771 cell lysates after exposure to normoxic (20% $O_2$) or hypoxic conditions (2% $O_2$) for 2 or 10 hours. **B)** Schematic of experimental metastasis procedure. Cell-free NCM and HCM from PyMT-WT and EO771 mammary tumor cells was injected intraperitoneally into mice daily for 7 days, followed by intravenous injection of Cherry-labelled PyMT-WT or EO771 mammary or B16F10 melanoma tumor cells on day 7. Lungs were harvested at 2 or 4 weeks post tumor cell injection.

**Supplementary Figure 2.**

**A)** Representative H&E images of micro- and macrometastases in lungs 2 weeks post injection of B16F10 tumor cells in mice pre-treated with PyMT-WT NCM or HCM. B16F10 metastases (indicated by black arrow heads) counted by dissecting microscope and summarised in graph below (n=10/group). Mean ± SEM. **B)** Cytokines/growth factors increased or decreased in PyMT-WT and EO771 HCM. Previously published factors in pre-metastatic niche formation are highlighted in green, and references for corresponding target positions on arrays in Figure 2B & C shown in brackets.

**Supplementary Figure 3.**

**A/B)** Flow cytometry analysis of $CD11b^+/Ly6C^{med}$ **(A)** and $CD11b^+/Ly6C^{high}$ **(B)** myeloid cell lung infiltrate in mice treated with PyMT-WT NCM/HCM alone (n=5-8) or NCM/HCM neutralized with MCP-1 antibody (anti-MCP-1 + NCM/HCM; n=10). Mean percentage ± SEM.

**Supplementary Figure 4.**

**A)** Flow cytometry analysis of $eGFP^+$ BMDC lung infiltrate for $CD3^+/CD4^+$ T cells, $CD3^+/CD8^+$ T cells, $CD11b^+$/MHC Class $II^+/F4/80^+$ macrophages and $CD11c^+$/MHC Class $II^+$ dendritic cell subpopulations (n=5/group). **B)** Flow cytometry analysis of mean intensity CD69 expression on $CD3^-/NK1.1^+$ cells compared to isotype control (n=5/group). **C)** Flow cytometry analysis of % $CD3^-/NK1.1^+$ NK cells in peripheral blood from mice after treatment with isotype (n=9) or asialoGM1 antibody (n=18) but before NCM/HCM injection. Mean percentage ± SEM.