**Supplementary Figure Legends**

**Supplementary Figure 1. Dose and time kinetic evaluation of the production of Chi3l1 by recombinant murine Sema7a (rmSema7a) stimulated macrophages**. Peritoneal macrophages isolated from WT mice were stimulated with the noted doses of rSema7a for up to 72 hours and the levels of Chi3l1 in the supernatant were evaluated by ELISA.

**Supplementary Figure 2. Double label immunohistochemical staining of CD4, Ly-6G, and Chi3l1**. Lung sections prepared from WT mice challenged with melanoma cells and subjected to double-labeled immunohistochemistry using cellular markers of fluorescence-labeled CD4, Ly-6G, Chi3l1 antibodies. A, co-localization of Chi3l1 and CD4. B, co-localization of Chi3l1 and Ly-6G. Arrows indicates CD4+ or Ly-6G+ cells. X 40 magnification.

**Supplementary Figure 3.** **Growth of melanoma cells 10 weeks of B16-F10 cell subcutaneous (s.c.) inoculation**. A, Appearance of WT tumor bearing mouse and gross pathologic view of WT and Sema7a null mice. B. Representative photos of tumors from WT, Chi3l1 null (Chi3l1-/-) and Sema7a null (Sema7a-/-) mice dissected 10 weeks after s.c. injection of B16-F10 melanocytes. In panel A the tumors are highlighted with arrows. In this preliminary evaluation, 50% of the WT mice were died within 10 weeks of tumor inoculation, but 100% of Sema7a and Chi3l1 mice were alive up to 3 months of observation after tumor inoculation.

**Supplementary Figure 4. The expression of Chi3l1 and Sema7a in lungs with and without metastatic breast cancer cells.** WT Balb/c mice were challenged with EMT6 breast cancer cells (EMT6+) or vehicle control (EMT 6-). A. This panel is a representative Western evaluation of the levels of Chi3l1 and Sema 7a in lung lysates from mice with and without EMT6 cells. B, ELISA evaluations of the levels of Chi3l1 in BAL fluids from mice treated with control (Ctrl) or Sema7a-specific silencing shRNA. The noted values represent the mean ± SEM of a minimum of 4 evaluations. \*\*p<0.01; \*p<0.05; ns, not significant. In panel B, n=4 mice per group.

**Supplementary Figure 5. Role of integrin β3 in Sema7a-stimualted expression of Chi3l1.** Peritoneal macrophages from WT mice were stimulated with vehicle (PBS), the FC fraction, or recombinant Sema7a-Fc (5ng/ml) for 48 hours in the presence (+) or absence (-) of integrin-β3 neutralizing antibody. The levels of Chi3l1 were measured by ELISA. The noted values represent the mean ± SEM of a minimum of 4 evaluations.