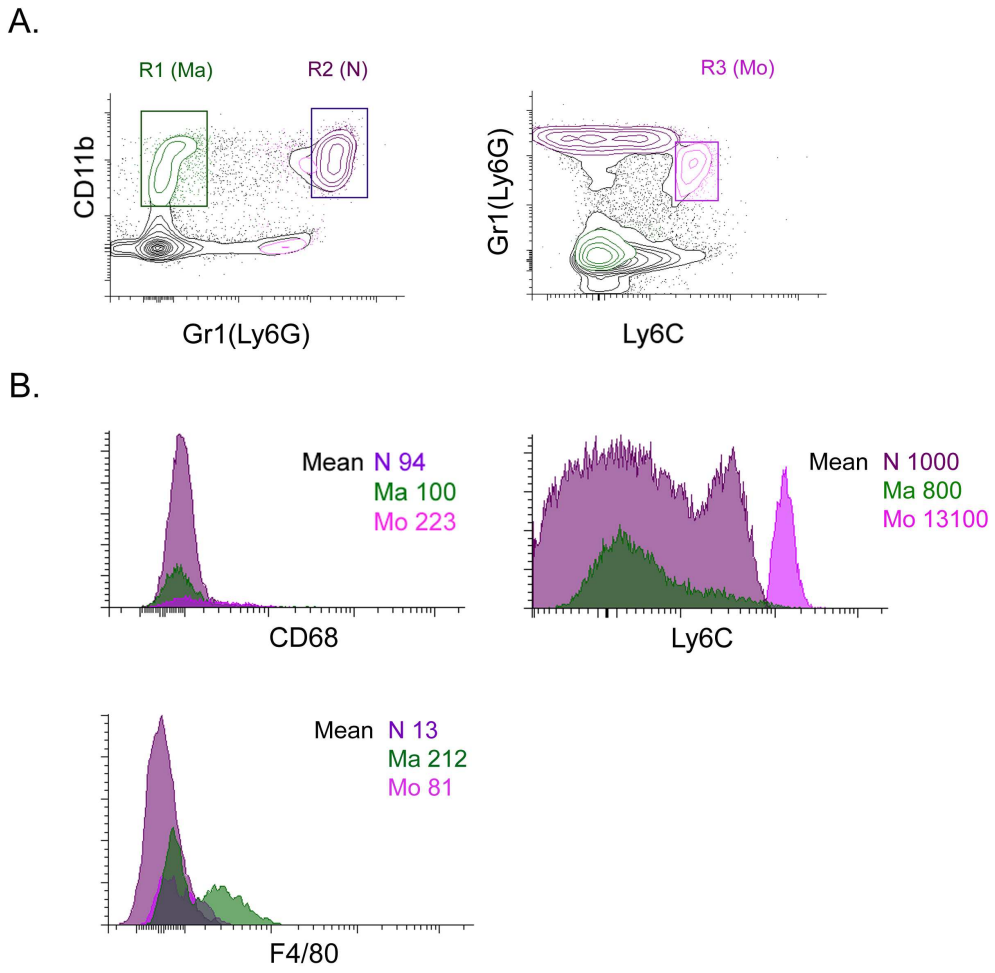

Figure S1. CD11b^{+}Gr1(Ly6G)$^{+}$ tumor infiltrating neutrophils are distinct from phenotypically similar inflammatory monocytes (Ly6C^{+}Ly6G^{+}), TAMs (tumor associated monocytic cells – CD68^{+}F4/80^{+}) or myeloid suppressor cells (Ly6C^{+}Ly6G^{+}CD11b^{+}). Tumors were taken from animals at day 14; stained and analyzed using BD LSR II System. Data were analyzed with FACSDiva software. **A.** Population of tumor infiltrating neutrophils (R2 gate in violet) can be easily distinguished from monocytes (R3) and macrophages (R1). This neutrophil gate was used for all experiments in the

manuscript i.e. Figure 3A. Colors used for these gates are identical with these shown in Figure S1 B. **B.** Expression of myeloid markers on populations gated above.

Based on this stainings $CD11b^{+}Gr1^{+}$ neutrophil population was established, that was analyzed in the whole study i.e. Figure 3A. Experiment was done three times with at least five animals per group.

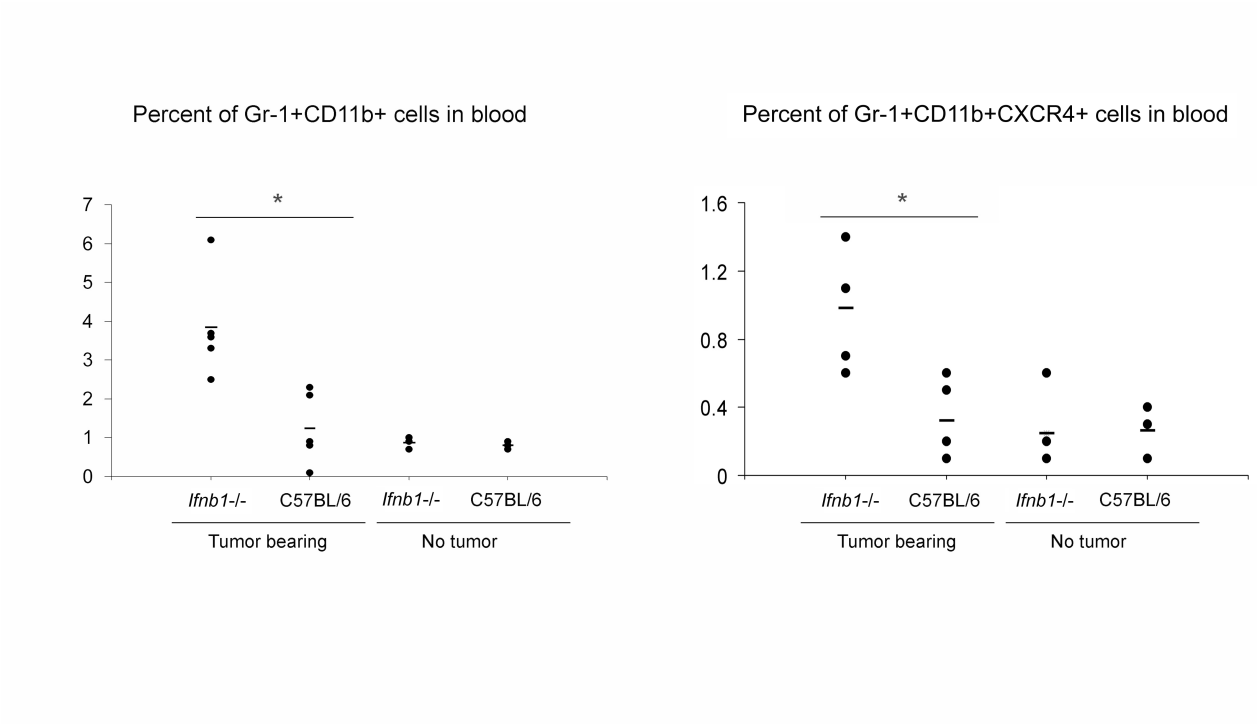

Figure S2. Percent of $CD11b^{+}Gr1^{+}$ neutrophils in blood of mice bearing tumors compared to tumor-free animals. Blood was taken from animals with (day 14) or without tumors; stained and analyzed using BD LSR II System. Data were analyzed with FACSDiva software. Experiment was done twice with at least five animals per group. * $p \leq 0.01$.

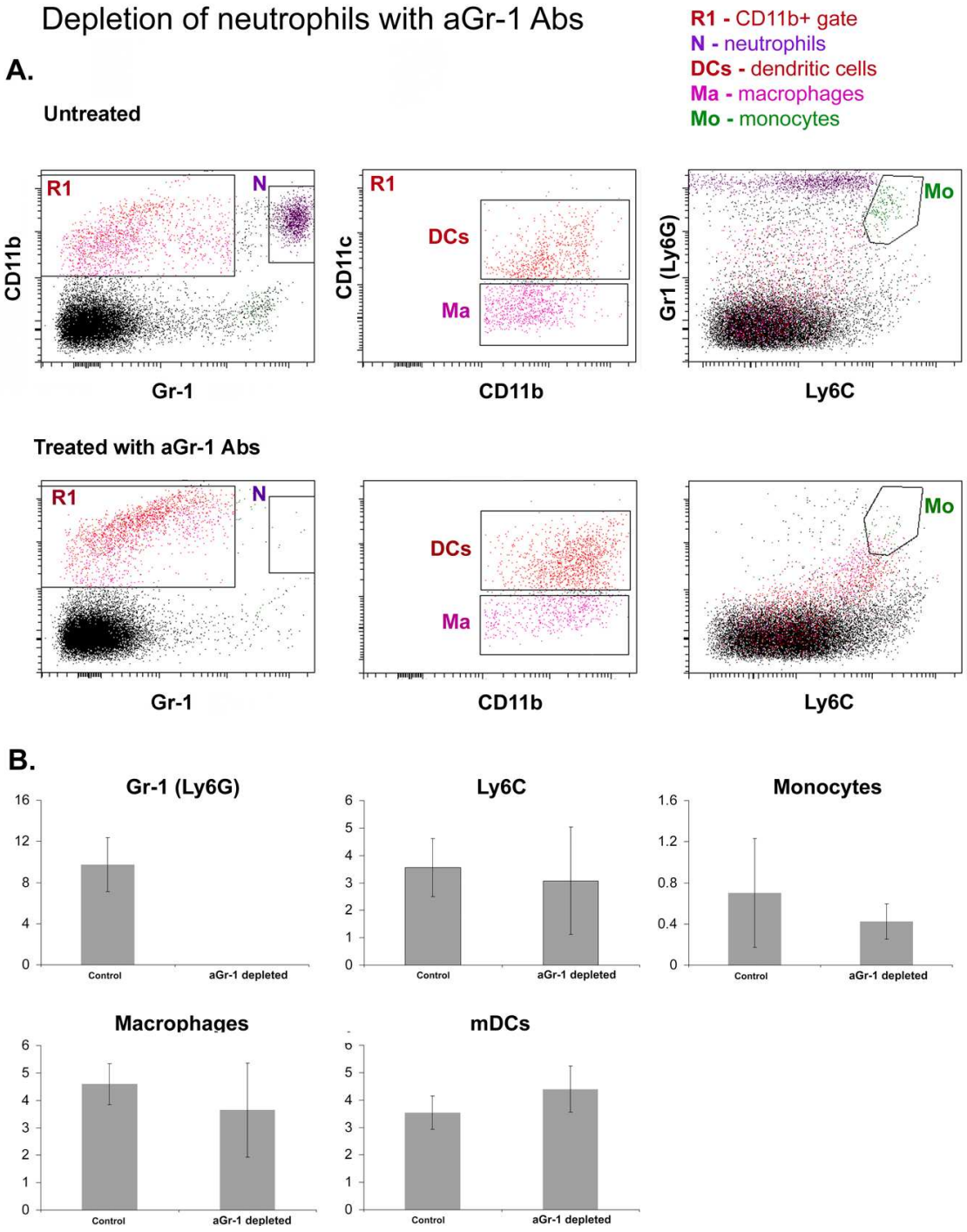

Figure S3. Monitoring of CD11b^{+}Gr1^{+} neutrophils in blood of mice after anti-Gr1 antibody mediated depletion. Mice received *i.p.* anti-Gr1 antibody at day –1, day 0 and following at day 2, 4, 6, 8 and 10 after injection of tumor cells. Depletion was controlled by testing blood samples from treated mice using BD LSR II System. **A.** Comparison of cell populations in animals treated with anti-Gr1 Abs and controls. Cell populations are shown in

colors. **B.** Statistical analysis of depleted populations, populations other than neutrophils are not significantly influenced by anti-Gr1 antibody mediated depletion. Data represent mean ± SEM. * $p \leq 0.01$.

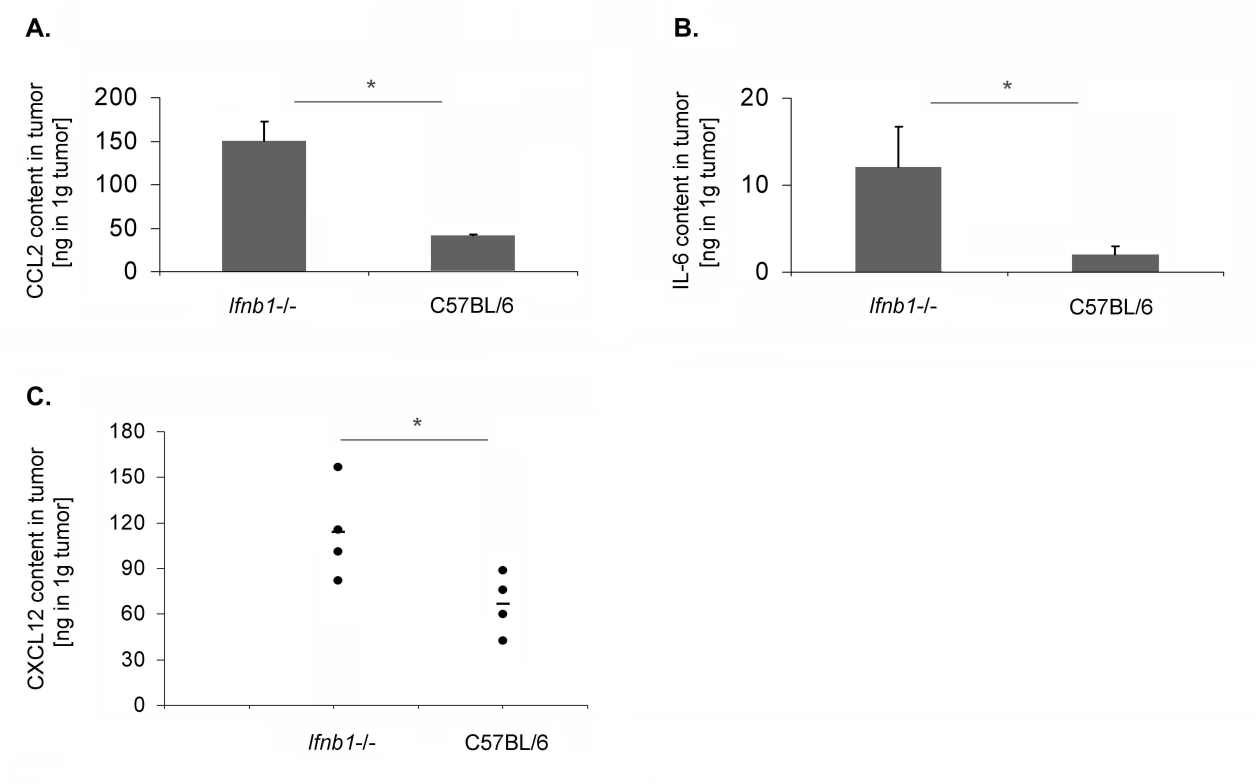

Figure S4. Augmented tumor homing cytokine content in tumors isolated from mice deficient of IFNβ. A. IL-6 and **B.** CCL2 content in tumor was measured using BD™ CBA Mouse Inflammation Kit. Tumor fragments were homogenized in PBS, centrifuged and supernatants frozen for measurement. Content of cytokines/chemokines was measured and calculated for 1g of tumor. Results are expressed as means ± standard deviations. * $p \leq 0.05$ **C.** CXCL12 content in tumors, measured using Quantikine® R&D Systems following manufacturer's manual. Tumor pieces were homogenized in PBS, centrifuged and supernatants frozen for measurement. Content of CXCL12 was measured and calculated for 1g of tumor. Data represent mean ± SEM. * $p \leq 0.01$.

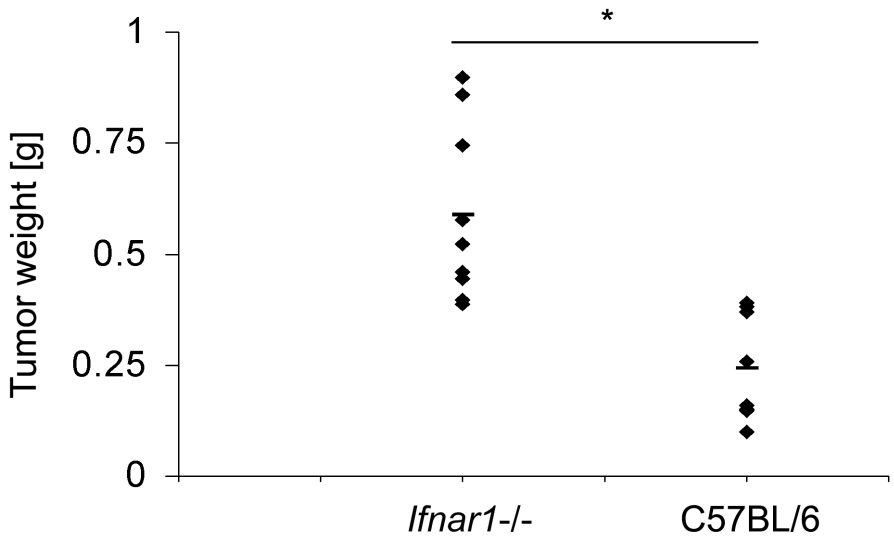

Figure S5. Tumor growth in *Ifnar1*$^{-/-}$ mice. Growth and size of tumors is significantly higher in *Ifnar1*$^{-/-}$ mice. B16F10 melanoma cells were injected *s.c.* into the abdomen of C57BL/6 or *Ifnar1*$^{-/-}$ mice and tumor growth was monitored. At day 14 mice were sacrificed and tumor weight and diameter was measured. Experiments were done with at least 5 animals per group, and repeated at least three times with similar results.

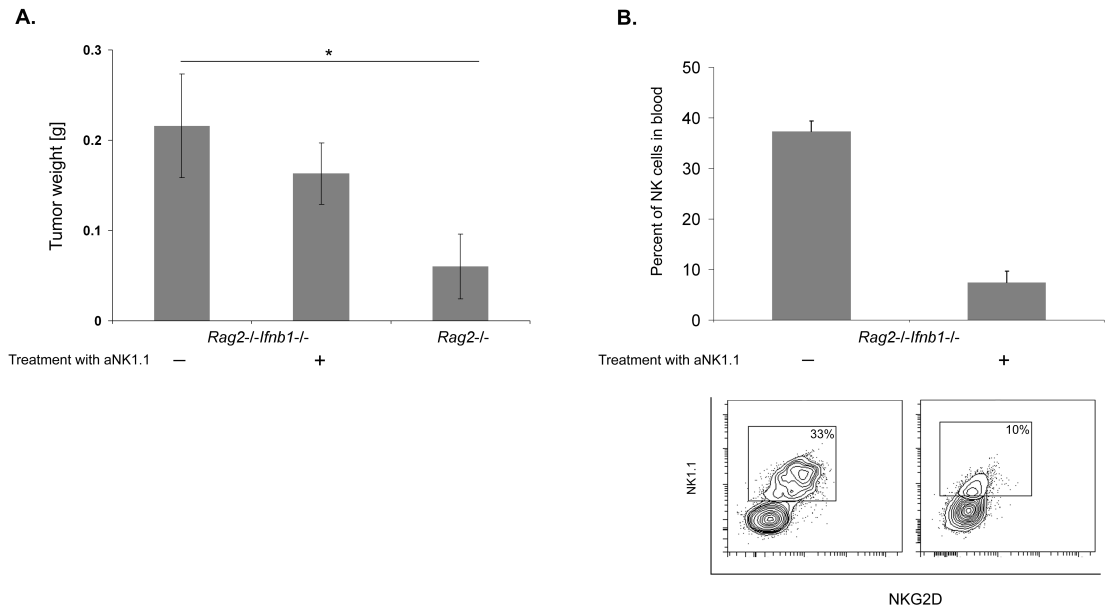

Figure S6. Tumor growth in *Rag2*$^{-/-}$/*Ifnb1*$^{-/-}$ mice after NK cells depletion. Growth and size of tumors is not significantly changed in *Rag2*$^{-/-}$/*Ifnb1*$^{-/-}$ mice treated with aNK1.1 depleting Abs. **A.** B16F10 melanoma cells were injected s.c. into the abdomen of *Rag2*$^{-/-}$ /*Ifnb1*$^{-/-}$ (depleted or not of NK cells) and *Rag2*$^{-/-}$ mice. 14 days tumor growth was monitored and at day 14 mice were sacrificed and tumor weight was measured. **B.** Depletion of NK cells was controlled 1 day after aNK1.1 Abs treatment. Significantly decreased percentage of NK cells was found using fluorescent staining of NK cells markers and FACS analysis. All experiments were done with at least 5 animals per group, and repeated at least two times with similar results. Data represent mean ± SEM. * $p \leq 0.01$.

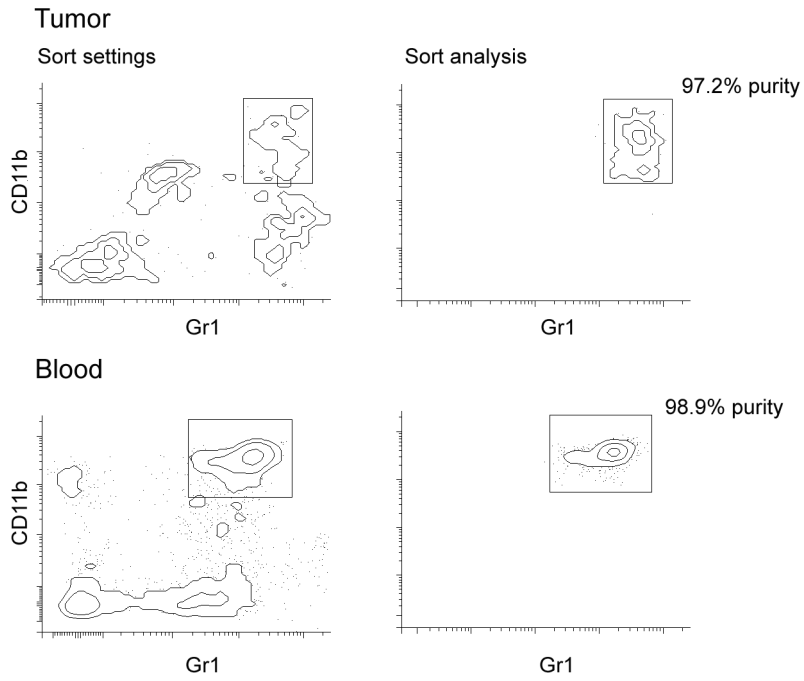

Figure S7. Sorting settings and the purity of sorted CD11b^{+}Gr1^{+} neutrophils. Blood and tumors were taken from animals at day 14. Single cells suspensions were stained, CD11b^{+}Gr1^{+} neutrophils were sorted using a FACSAria^{TM} cell sorter (BD Bioscience). Experiment was done at least three times with at least five animals per group. Purity of obtained cells was always > 97%.