

**Figure S1.** Exsanguination is efficient to remove circulating ILC2. Flow cytometry analyses of ILC1/NK (Lin<sup>-</sup>(CD3, CD5, CD19, TCR $\beta$ , TCR $\gamma\delta$ , Gr1, Ter119, CD8 $\alpha$ , F4/80) NK1.1<sup>+</sup> NKp46<sup>+</sup>) and ILC2 (Lin<sup>-</sup>(CD3, CD5, CD19, TCR $\beta$ , TCR $\gamma\delta$ , Gr1, Ter119, CD8 $\alpha$ , F4/80) NK1.1<sup>-</sup> IL7R<sup>+</sup> Sca1<sup>+</sup>) lung cells from CXCR6<sup>+/GFP</sup> and CXCR6<sup>GFP/GFP</sup> mice. Different subsets are distinguished by the expression of CD45. Anti-CD45 antibody coupled with a fluorochrome was injected intravitally 2 minutes before the sacrifice.



**Figure S2.** CXCR6 is mainly expressed by lung ILC2 KLRG1+. (A) Flow cytometry analyses of CD45<sup>+</sup> Lin<sup>-</sup> (CD3, CD5, CD19, TCR $\beta$ , TCR $\gamma\delta$ , Gr1, Ter119, CD8 $\alpha$  and F4/80) NKp46<sup>-</sup> NK1.1<sup>-</sup> lung cells from CXCR6<sup>+/GFP</sup> mice. Different subsets are distinguished depending on the expression of KLRG1. Sca1 and CXCR6 expression from KLRG1<sup>+</sup> and KLRG1<sup>-</sup> populations (graphs are representative of n=3). (B) Flow cytometry analyses of CD45<sup>+</sup> Lin<sup>-</sup> lung cells from CXCR6<sup>+/GFP</sup> mice. CXCR6 expression among ILC1/NK (NK1.1<sup>+</sup> NKp46<sup>+</sup>) cells (graphs are representative of n=3).



**Figure S3.** Phenotype and frequency of ILC2 are altered in CXCR6<sup>GFP/GFP</sup> mice after inflammatory induction (papain stimulation) (A) ST2 MFI of GATA3<sup>+</sup> lung cells from CXCR6<sup>+/GFP</sup> and CXCR6<sup>GFP/GFP</sup> mice. (+/GFP = 2, GFP/GFP = 2) (B) Frequency and absolute number of lung ILC2 (CD45<sup>+</sup> Lin<sup>-</sup> GATA3<sup>+</sup>) from CXCR6<sup>+/GFP</sup> and CXCR6<sup>GFP/GFP</sup> mice. (+/GFP = 2, GFP/GFP = 2) (C) Frequency and absolute number of lung ST2<sup>-</sup> ILC2 and ST2<sup>+</sup> ILC2 (CD45<sup>+</sup> Lin<sup>-</sup> GATA3<sup>+</sup>) from CXCR6<sup>+/GFP</sup> and CXCR6<sup>GFP/GFP</sup> mice. (+/GFP = 2, GFP/GFP = 2) (D) KLRG1 MFI of GATA3<sup>+</sup> ST2<sup>+</sup> lung cells from CXCR6<sup>+/GFP</sup> and CXCR6<sup>GFP/GFP</sup> mice. (+/GFP = 2, GFP/GFP = 2) (E) Frequency and absolute number of KLRG1<sup>+</sup> ST2<sup>+</sup> and KLRG1<sup>-</sup> ST2<sup>+</sup> lung ILC2 (CD45<sup>+</sup> Lin<sup>-</sup> GATA3<sup>+</sup>) from CXCR6<sup>+/GFP</sup> and CXCR6<sup>GFP/GFP</sup> mice. (+/GFP = 2, GFP/GFP = 2) (E) Frequency and absolute number of KLRG1<sup>+</sup> ST2<sup>+</sup> and KLRG1<sup>-</sup> ST2<sup>+</sup> lung ILC2 (CD45<sup>+</sup> Lin<sup>-</sup> GATA3<sup>+</sup>) from CXCR6<sup>+/GFP</sup> and CXCR6<sup>GFP/GFP</sup> mice. (+/GFP = 2, GFP/GFP = 2) (E) Frequency and absolute number of KLRG1<sup>+</sup> ST2<sup>+</sup> and KLRG1<sup>-</sup> ST2<sup>+</sup> lung ILC2 (CD45<sup>+</sup> Lin<sup>-</sup> GATA3<sup>+</sup>) from CXCR6<sup>+/GFP</sup> and CXCR6<sup>GFP/GFP</sup> mice. (+/GFP = 2, GFP/GFP = 2).



**Figure S4.** ILC1 and NK cell numbers are altered in CXCR6<sup>GFP/GFP</sup> mice after inflammatory induction (papain stimulation). (A) Flow cytometry analyses of ILC1/NK (Lin<sup>-</sup>:CD3, CD5, CD19, TCR $\beta$ , TCR $\gamma\delta$ , Gr1, Ter119, CD8 $\alpha$ , F4/80; CD45<sup>+</sup> NK1.1<sup>+</sup> NKp46<sup>+</sup>) lung cells from CXCR6<sup>+/GFP</sup> and CXCR6<sup>GFP/GFP</sup> mice. Different subsets are distinguished by the expression of KLRG1 and CXCR6 (left panel of graphs) or CD127 and CXCR6 (right panel of graphs). (+/GFP = 2, GFP/GFP = 2). (B) Absolute numbers of ILC1 (lin<sup>-</sup> CD45<sup>+</sup> NKp46<sup>+</sup> NK1.1<sup>+</sup> CD127<sup>-</sup>) and NK cells (Lin<sup>-</sup> CD45<sup>+</sup> NKp46<sup>+</sup> NK1.1<sup>+</sup> CD127<sup>+</sup>) from CXCR6<sup>+/GFP</sup> and CXCR6<sup>GFP/GFP</sup> mice. (+/GFP = 2, GFP/GFP = 2).



**Figure S5.** CXCR6 is expressed by *lamina propria* (LP) ILC2. Flow cytometry analyses of LP ILC2 (Lin<sup>-</sup>:CD3, CD5, CD19, TCR $\beta$ , TCR $\gamma\delta$ , Gr1, Ter119, CD8 $\alpha$  and F4/80; NKp46<sup>-</sup> NK1.1<sup>-</sup> CD127<sup>+</sup> KLRG1<sup>+</sup>) from CXCR6<sup>+/GFP</sup> mice. CD127 and CXCR6 expression among ILC2 cells (graphs are representative of n=5).