

Supplemental Table 1

Eosinophil panel

Antibody	Conjugation	Clone	Company
Siglec-F	PE	E50-2440	BD Biosciences
Ly6G	AlexaFluor700	1A8	Biolegend
CD45.2	BUV395	104	BD Biosciences
CD11c	AF488	N418	Lifetech
CD11b	PeCy7	M1/70	eBioscience
F4/80	APC	BM8	eBioscience

Supplemental Table 2

ILC2 Panel

Antibody	Conjugation	Clone	Company
CD45R	PE	RA3-6B2	Lifetech
CD3e	PE	145-2C11	Biolegend
CD49b	PE	DX5	BD Biosciences
Ly6G	PE	1A8	Biolegend
TCRyD	PE	GL3	BD Biosciences
CD11c	PE	N4/8	Biolegend
CD11b	PE	M1/70	eBioscience
FceR1a	PE	MAR1	Biolegend
Thy1.2 (CD90.2)	EF450	53-2.1	eBioscience
CD127 (IL7Ra)	PeCy7	A7R34	Biolegend
KLRG1	BV605	2F1/KLRG1	Biolegend
MHCII	BV510	M5/114.15.2	Biolegend
ST2	PerCP- eFluor710	RMST2-2	Biolegend
CD45.2	BUV395	104	BD Biosciences
IL17RB	BV786	6B7	BD-OptiBuild
IL13	AF488	eBio13A	Lifetech
IL5	APC	TRFK5	BDBiosciences

Supplemental Figure Legends

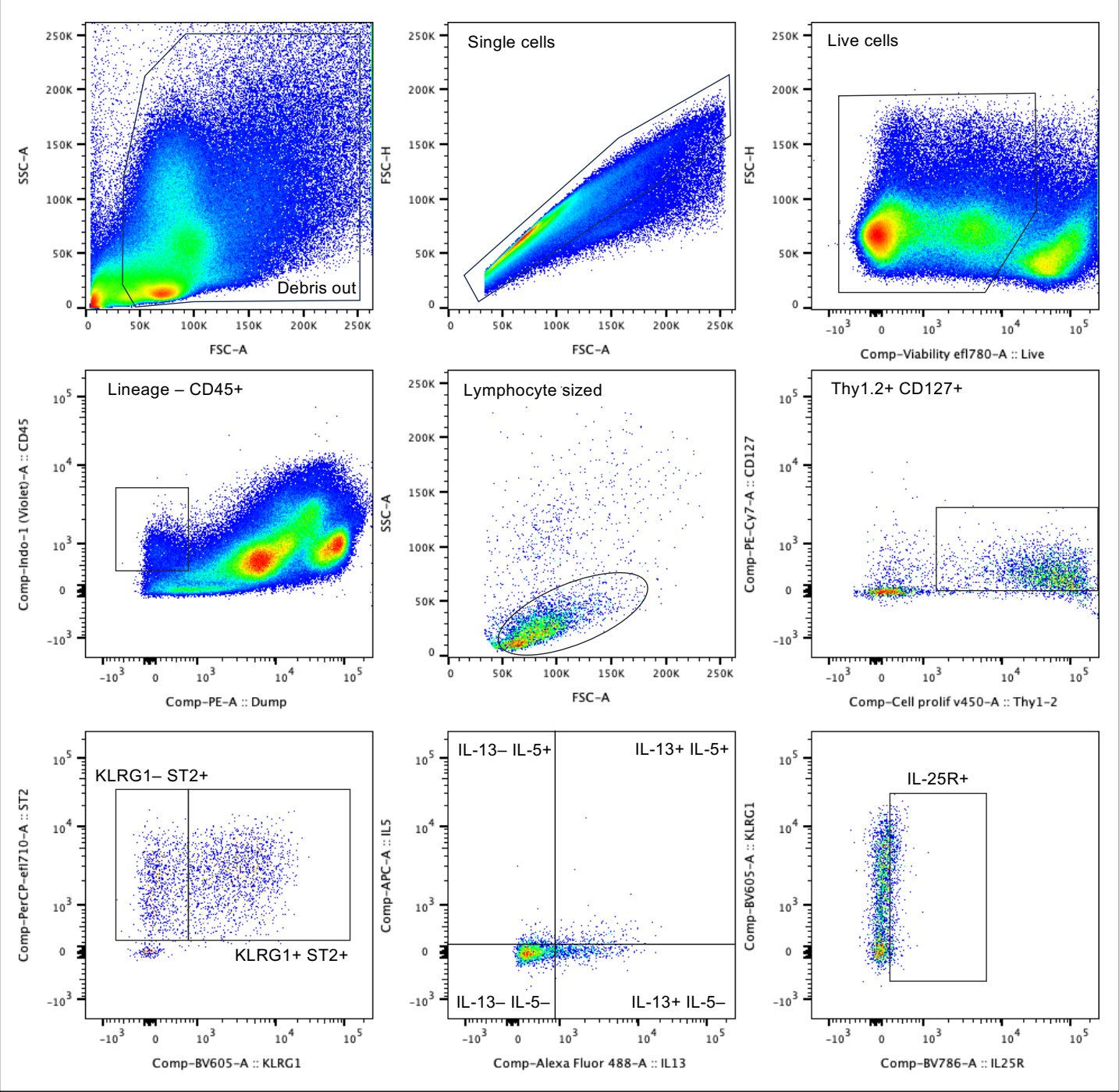
Figure S1. Gating strategy to identify ILC2s, IL25R⁺ ILC2s and cytokine-producing ILC2s in the lung.

After removed debris, cells were gated first on singlets and then live cells. ILC2s were defined as Lin⁻ CD45⁺, lymphoid-like cells, Thy1.2⁺CD127⁺ST2⁺, positive or negative for KLRG1. KLRG1⁺ and KLRG1⁻ ILC2s producing cytokines were quantified as was cytokine production in IL-25R⁺KLRG⁺ and IL-25R⁺KLRG⁻ ILC2s.

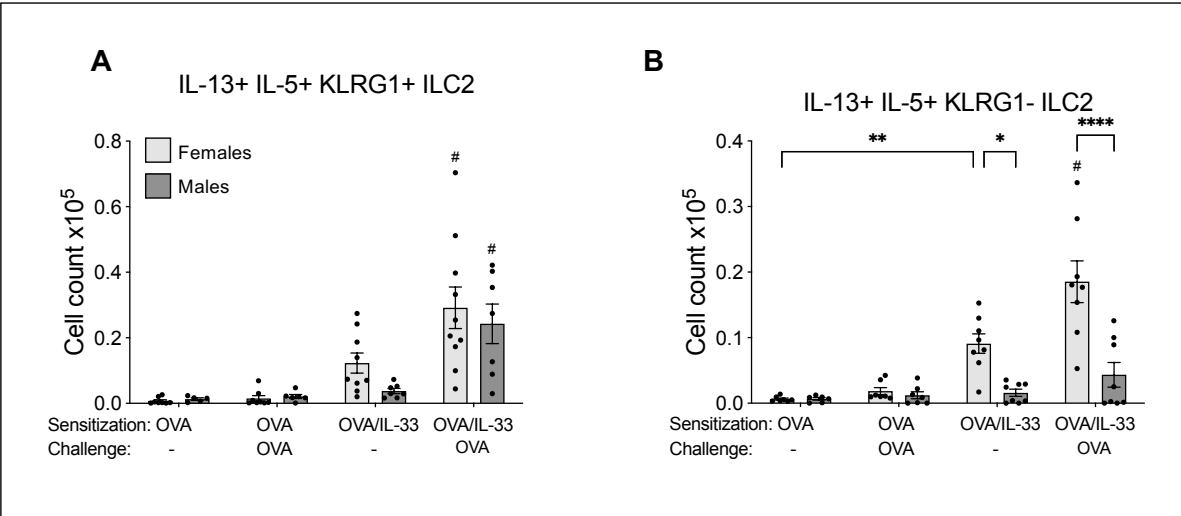
Figure S2. Cytokine producing KLRG1⁻ ILC2s are greater in female mice. Mice were treated as described in Figure 1A, after which lungs were harvested for flow cytometry analysis. Absolute count of **(A)** IL-13⁺IL-5⁺KLRG1⁺ ILC2s and **(B)** IL-13⁺IL-5⁺KLRG1⁻ ILC2s in the lung. Data are the combination of 2 independent experiments, presented as mean $\pm$ SEM, with 6-8 mice/group. Outcomes were assessed by two-way ANOVA, followed by Tukey's post hoc test. *p<0.05, **p<0.01, ****p<0.0001. #: significantly different than all other groups within the same sex.

Figure S3. IL-33 increases cytokine production and number of IL-25R expressing ILC2s selectively in female mice. Mice were treated as described in Figure 4A, replacing IL-25 with IL-33 at challenge, after which lungs were harvested for flow cytometry analysis. Absolute count of **(A)** IL-13⁺KLRG1⁺ ILC2s **(B)** IL-13⁺KLRG1⁻ ILC2s **(C)** IL-5⁺KLRG1⁺ ILC2s **(D)** IL-5⁺KLRG1⁻ ILC2s **(E)** IL-25R⁺KLRG1⁺ ILC2s **(F)** IL-25R⁺KLRG1⁻ ILC2s in the lung. Data are the combination of 2 independent experiments, presented as mean $\pm$ SEM, with 8-10 mice/group. Outcomes were assessed by two-way ANOVA, followed by Tukey's post hoc test. *p<0.05, **p<0.01, ***p<0.001, ****p<0.0001. #: significantly different than all other groups within the same sex. NOTE: Data in mice sensitized with OVA/IL-33 and challenged with saline are from the same mice presented in Figure 4.

Supplemental Figure 1



Supplemental Figure 2



Supplemental Figure 3

