

Supplemental Data

The SLAM-Associated Protein Signaling Pathway

Is Required for Development of CD4⁺ T Cells

Selected by Homotypic Thymocyte Interaction

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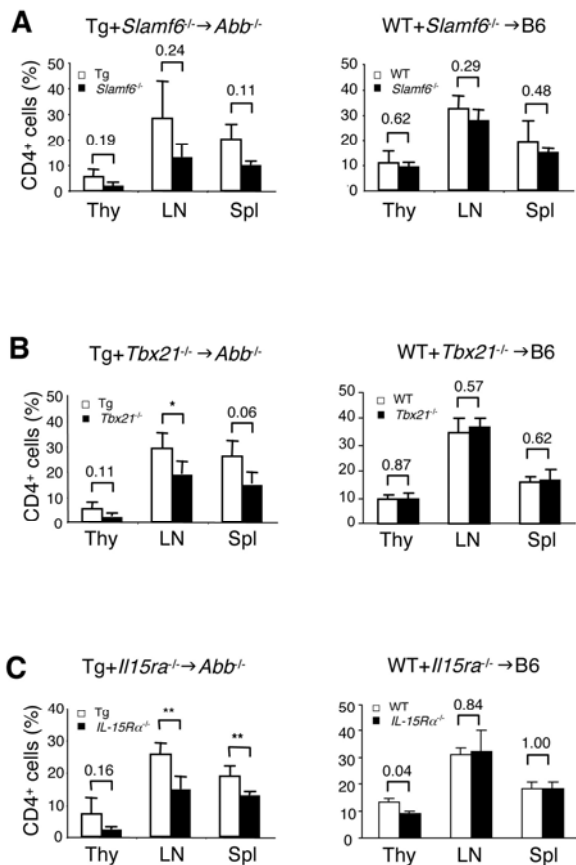


Figure S1. T- and E-CD4 T cell generation in the absence of Ly108, T-bet or IL-15R α

(A) Percentage of CD4 SP

thymocytes and LN and splenic CD4

T cells from Tg+*Slamf6*^{-/-}→*Abb*^{-/-}

(left group) and of WT+*Slamf6*^{-/-}

→B6 (right group) chimeric mice.

Data are shown as mean \pm SD from 3

mice for each group.

(B) Percentage of CD4 SP

thymocytes and LN and splenic CD4

T cells from Tg+*Tbx21*^{-/-}→*Abb*^{-/-} (left

group) and of WT+*Tbx21*^{-/-}→B6

chimeric mice. Data are shown as

mean \pm SD from 3 mice for each group.

(C) Percentage of CD4 SP thymocytes and LN and splenic CD4 T cells from Tg+*Il15ra*^{-/-}→*Abb*^{-/-} (left group) and of WT+*Il15ra*^{-/-}→B6 chimeric mice. Data are shown as mean \pm SD from 4 and 3 mice, respectively.

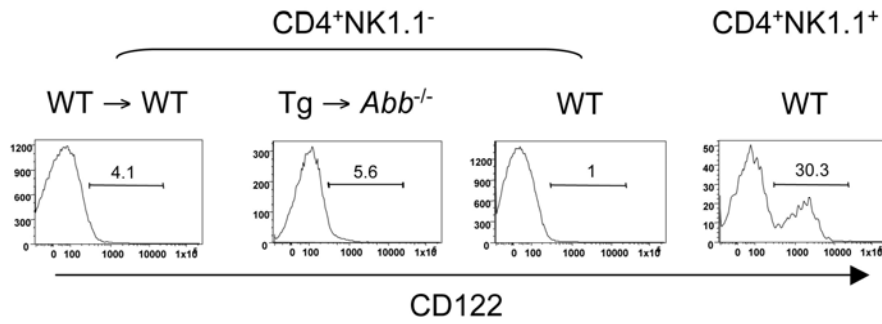
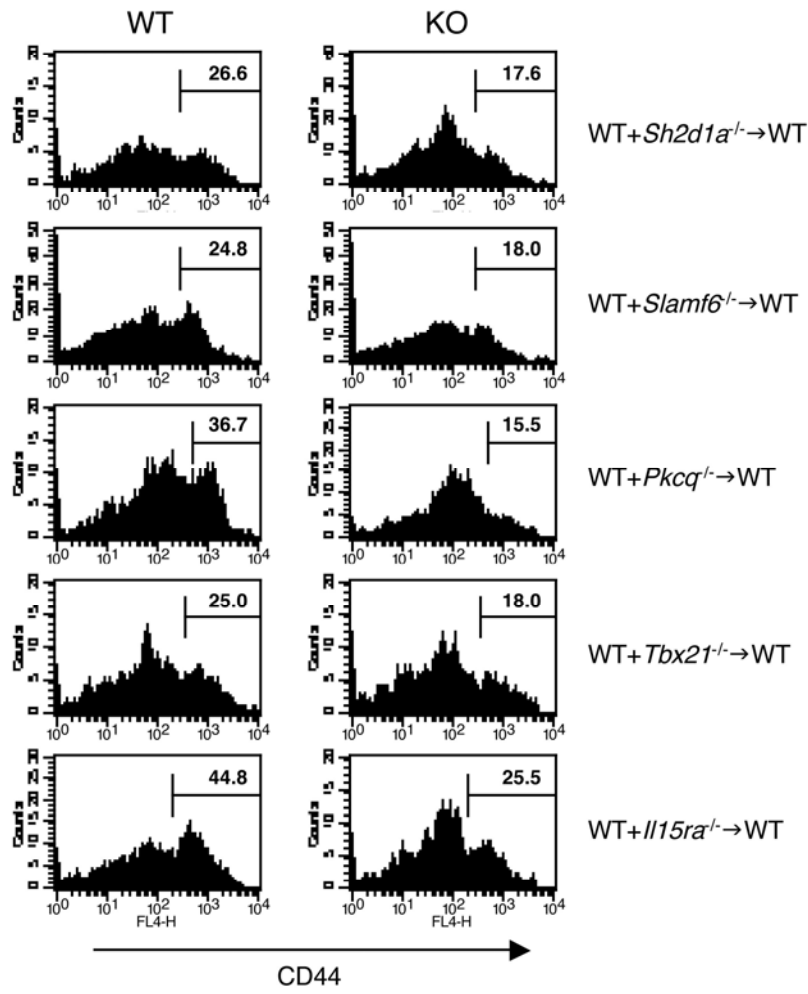


Figure S2. T-CD4 T cells did not express a measurable level of CD122

Shown in the histograms is the expression level of CD122 on gated splenic NK1.1⁻ CD4 T cells (left three panels) and NK1.1⁺ CD4 T cells (right panel). Approximately 5% of E-CD4 cells from WT→WT mice and T-CD4 T cells from Tg→*Abb*^{-/-} mice are CD122 positive. In WT control mice, few NK1.1⁻ CD4 T cells but a high percentage of NK1.1⁺CD4⁺ T cells express CD122.

A



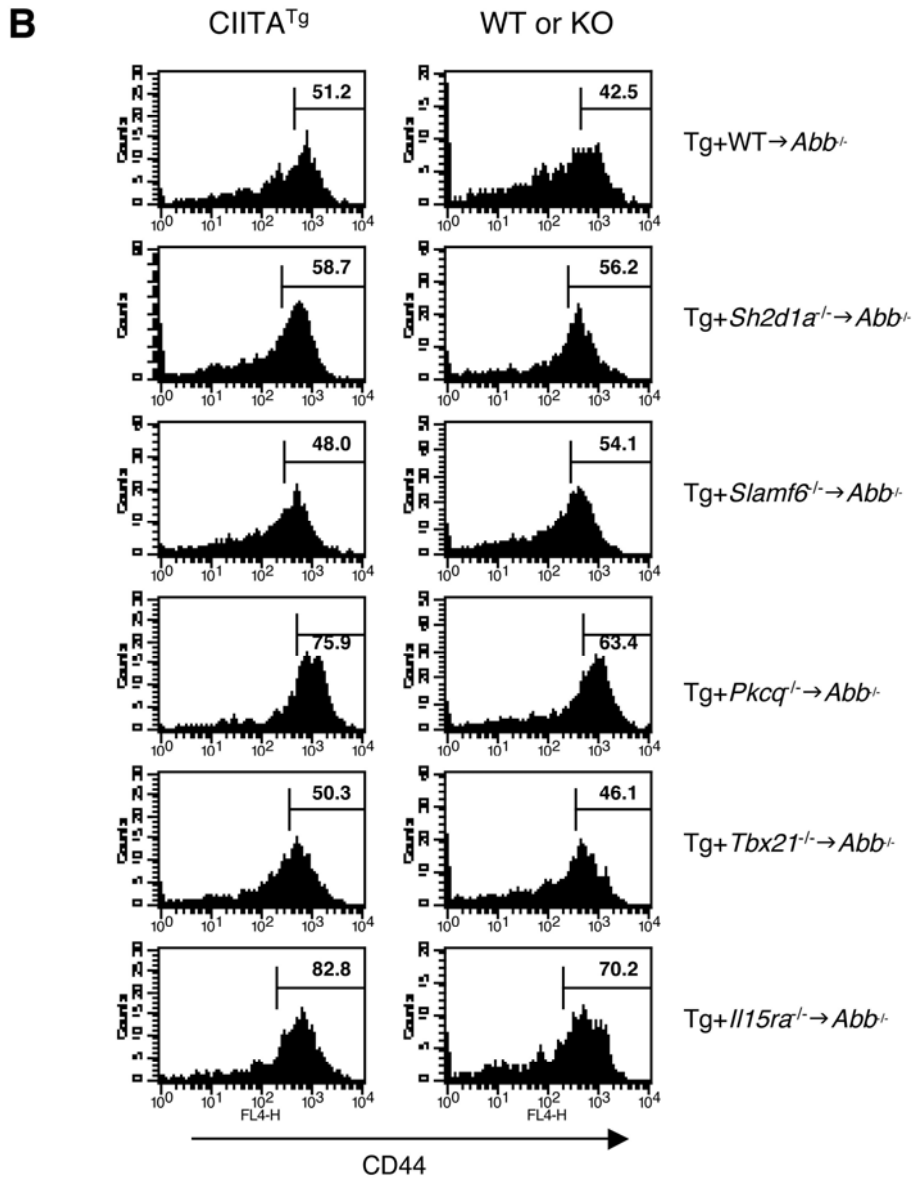


Figure S3. Percentage of CD44^{hi} splenic E-CD4 T cells (A) and T-CD4 T cells (B) in mixed BM chimeric mice

The number in the histograms represents the percentage of CD44^{hi} CD4 T cells.

Table S1. Total numbers of CD4 SP and CD4 cells in mixed BM chimeric mice

	# of mice	Thy		LN		Sp	
		Tg	WT or KO	Tg	WT or KO	Tg	WT or KO
Tg + WT → <i>Abb</i> ^{-/-}	5	0.41±0.15	0.93±0.37	1.45±0.99	1.15±0.81	2.22±0.94	2.26±1.17
Tg + <i>Sh2d1a</i> ^{-/-} → <i>Abb</i> ^{-/-}	4	0.44±0.46	0.16±0.14	0.91±0.38	0.20±0.12	1.69±0.32	0.28±0.12
Tg + <i>Fyn</i> ^{-/-} → <i>Abb</i> ^{-/-}	2	0.27±0.03	0.25±0.05	0.30±0.23	0.10±0.04	3.66±2.82	0.88±0.38
Tg + <i>Pkcq</i> ^{-/-} → <i>Abb</i> ^{-/-}	4	0.46±0.19	1.00±0.92	0.79±0.57	0.58±0.46	2.42±0.47	2.46±0.17
Tg + <i>Slamf6</i> ^{-/-} → <i>Abb</i> ^{-/-}	3	0.23±0.18	0.52±0.41	0.62±0.44	0.66±0.46	1.52±0.93	1.50±0.33
Tg + <i>Tbx21</i> ^{-/-} → <i>Abb</i> ^{-/-}	3	0.13±0.07	0.38±0.23	0.52±0.14	0.73±0.19	1.81±0.91	1.55±0.17
Tg + <i>Il15ra</i> ^{-/-} → <i>Abb</i> ^{-/-}	4	0.28±0.18	0.56±0.45	0.72±0.45	0.69±0.56	1.65±1.21	1.52±1.27

The numbers ($\times 10^6$) shown are mean±SD.

Table S2. Percentages of CD8 SP and CD8 cells in mixed BM chimeric mice

	# of mice	Thy		LN		Sp	
		Tg	WT or KO	Tg	WT or KO	Tg	WT or KO
Tg + WT → <i>Abb</i> ^{-/-}	5	10.4±6.8	5.2±2.0	12.9±1.4	28.1±6.9	4.2±1.3	8.6±1.6
Tg + <i>Sh2d1a</i> ^{-/-} → <i>Abb</i> ^{-/-}	4	2.4±1.0	2.3±1.0	10.0±2.9	35.3±15.3	4.5±1.0	12.7±8.3
Tg + <i>Fyn</i> ^{-/-} → <i>Abb</i> ^{-/-}	2	4.4±0.4	2.1±0.2	13.7±9.8	25.1±28.6	4.7±1.1	7.2±6.7
Tg + <i>Pkcq</i> ^{-/-} → <i>Abb</i> ^{-/-}	4	2.7±1.3	6.0±3.8	13.2±8.0	20.5±10.0	5.7±2.6	9.7±2.6
Tg + <i>Slamf6</i> ^{-/-} → <i>Abb</i> ^{-/-}	3	8.8±6.8	5.8±4.2	10.0±1.9	25.5±4.9	5.6±2.1	5.3±3.1
Tg + <i>Tbx21</i> ^{-/-} → <i>Abb</i> ^{-/-}	3	12.6±3.6	7.7±0.5	13.0±4.0	31.0±7.2	5.7±0.6	23.7±5.5
Tg + <i>Il15ra</i> ^{-/-} → <i>Abb</i> ^{-/-}	4	4.2±1.5	3.3±4.7	11.5±4.4	27.0±10.9	5.5±1.3	14.5±7.0

The percentage was calculated on total thymocytes, LN, or hemolyzed splenic cells of each genotype.

Table S3. Total numbers of CD8 SP and CD8 cells in mixed BM chimeric mice

	# of mice	Thy		LN		Sp	
		Tg	WT or KO	Tg	WT or KO	Tg	WT or KO
Tg + WT → <i>Abb</i> ^{-/-}	5	0.62±0.53	1.05±0.78	0.64±0.44	1.65±1.11	0.47±0.18	1.26±0.26
Tg + <i>Sh2d1a</i> ^{-/-} → <i>Abb</i> ^{-/-}	4	0.23±0.27	0.87±0.67	0.27±0.09	1.73±0.88	0.34±0.11	1.58±0.73
Tg + <i>Fyn</i> ^{-/-} → <i>Abb</i> ^{-/-}	2	0.20±0.04	0.64±0.15	0.09±0.03	0.18±0.15	0.80±0.52	1.13±0.77
Tg + <i>Pkcq</i> ^{-/-} → <i>Abb</i> ^{-/-}	4	0.22±0.15	2.92±1.61	0.39±0.33	1.38±0.88	0.52±0.23	2.55±1.09
Tg + <i>Slamf6</i> ^{-/-} → <i>Abb</i> ^{-/-}	3	0.39±0.33	1.52±1.28	0.22±0.14	1.24±0.86	0.37±0.08	1.64±0.40
Tg + <i>Tbx21</i> ^{-/-} → <i>Abb</i> ^{-/-}	3	0.29±0.10	1.28±0.41	0.23±0.09	1.18±0.36	0.37±0.07	2.61±0.81
Tg + <i>Il15ra</i> ^{-/-} → <i>Abb</i> ^{-/-}	4	0.18±0.13	0.79±0.70	0.31±0.19	1.20±0.83	0.42±0.29	1.65±0.76

The numbers ($\times 10^6$) shown are mean±SD.