## Used to analyze data presented in Source Antigen Clone Fluorochrome (Note that not all antibodies are shown in figures) Mouse EpCAM G8.8 APC/Cy7 Biolegend Figures 5, 8 Mouse CD45 30-F11 PE/Cy5 Biolegend Figures 5, 8 Mouse CD45.1 A20 Pacific blue Biolegend Figure 1 Mouse CD45.2 104 Biotinylated Pharmingen Figure 1 Alexa 680, Vector Labs, *Ulea Europaeus* Figures 5, 8 Agglutinin I lectin Biotinylated In-house Figures 5, 8 Mouse I-A/I-E M5/114.15.2 Pacific blue, PE/Cy7 Biolegend 6C3 Mouse Ly-51 Biotinylated **BD** Biosciences Figures 5, 8 Mouse CD80 APC 16-10A1 Biolegend Figures 5, 8 Mouse CD3 Alexa 488, APC Figures 1, 2 145-2C11 Biolegend PE Figures 2, 4 Mouse TCR<sub>β</sub> H57-597 Biolegend Mouse CD4 GK1.5 PE/Cy7 Biolegend Figures 1, 2, 4 53-6.7 Mouse CD8 PE/Cy5.5, Pacific blue Biolegend Figures 1, 2, 4 Mouse B220 RA3-6B2 PE/Cy5 Biolegend Figure 1 Mouse CD19 6D5 Figures 1, 2, 4 PE/Cy5.5 Invitrogen Mouse Gr1 **RB6-8C5** Pacific orange In-house Figures 1, 2, 4 Mouse CD11b M1/70 PE/Cy5 Figures 1, 2, 4 Biolegend Biotinylated, APC/Cy7 Mouse CD11c HL3 Biolegend Figure 1 **BD** Biosciences Mouse CD62L FITC, APC Figures 2, 4 **MEL-14** In-house Mouse CD44 IM7 Alexa 680 In-house Figures 2, 4 Mouse c-Kit 2B8 APC/Cy7 Biolegend Figure 1 Mouse CD25 PC61 Alexa 488, APC Biolegend Figure 1 MBL International Mouse Psmb11 Polyclonal Not applicable Figure 5 Corporation Jackson Donkey anti-rabbit Secondary antibody Not applicable Figure 5 DyLight 594 Immunoresearch Streptavidin-Secondary antibody Not applicable Invitrogen Figure 1 Qdot605 Streptavidin-Secondary antibody Not applicable Invitrogen Figure 5 Alexa fluor 594 Streptavidin-**BD** Biosciences Figures 5, 8 Secondary antibody Not applicable BV605 or BV 421

## Supplemental Table 1. List of antibodies used in the study.



**Supplemental Figure 1. Contribution of parabiotic partner thymocytes does not correlate with thymus cellularity in heterochronic parabionts.** The contribution of partner cells to the thymus of each heterochronic parabiont (data from Figure 1B) was graphed against the total cellularity of that thymus (data from Figure 1C).



**Supplemental Figure 2. Donor cell engraftment level does not correlate with percentage of naïve splenic T cells.** Percentages of splenic naïve T cells shown in Figure 5C were compared to the engraftment levels of donor GFP<sup>+</sup> thymic cells within recipient thymuses (examples in Figure 4B). Each recipient thymus was manually scored to determine the engraftment level.