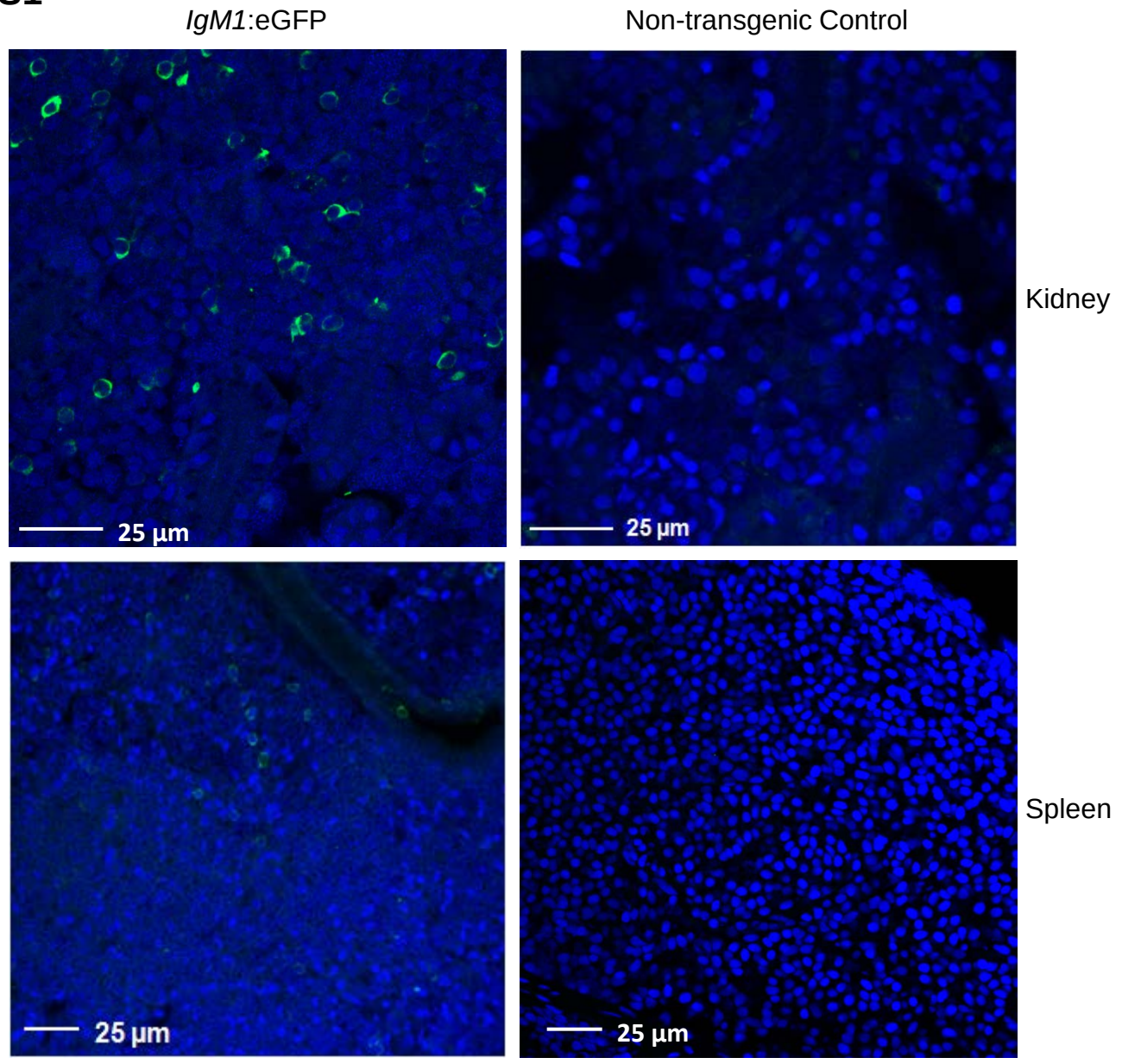
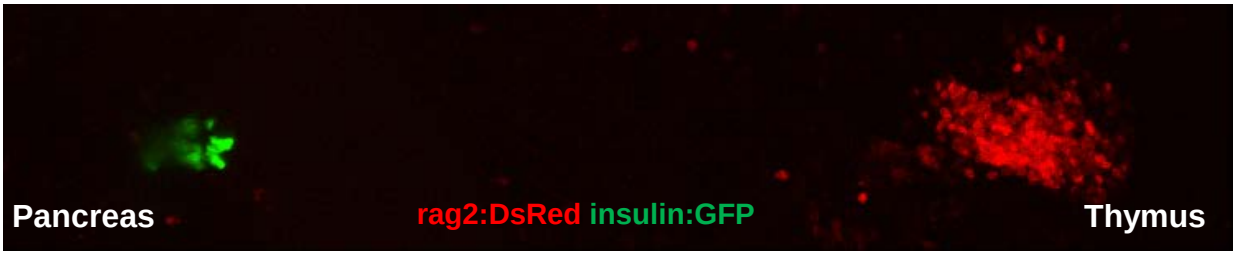
S1

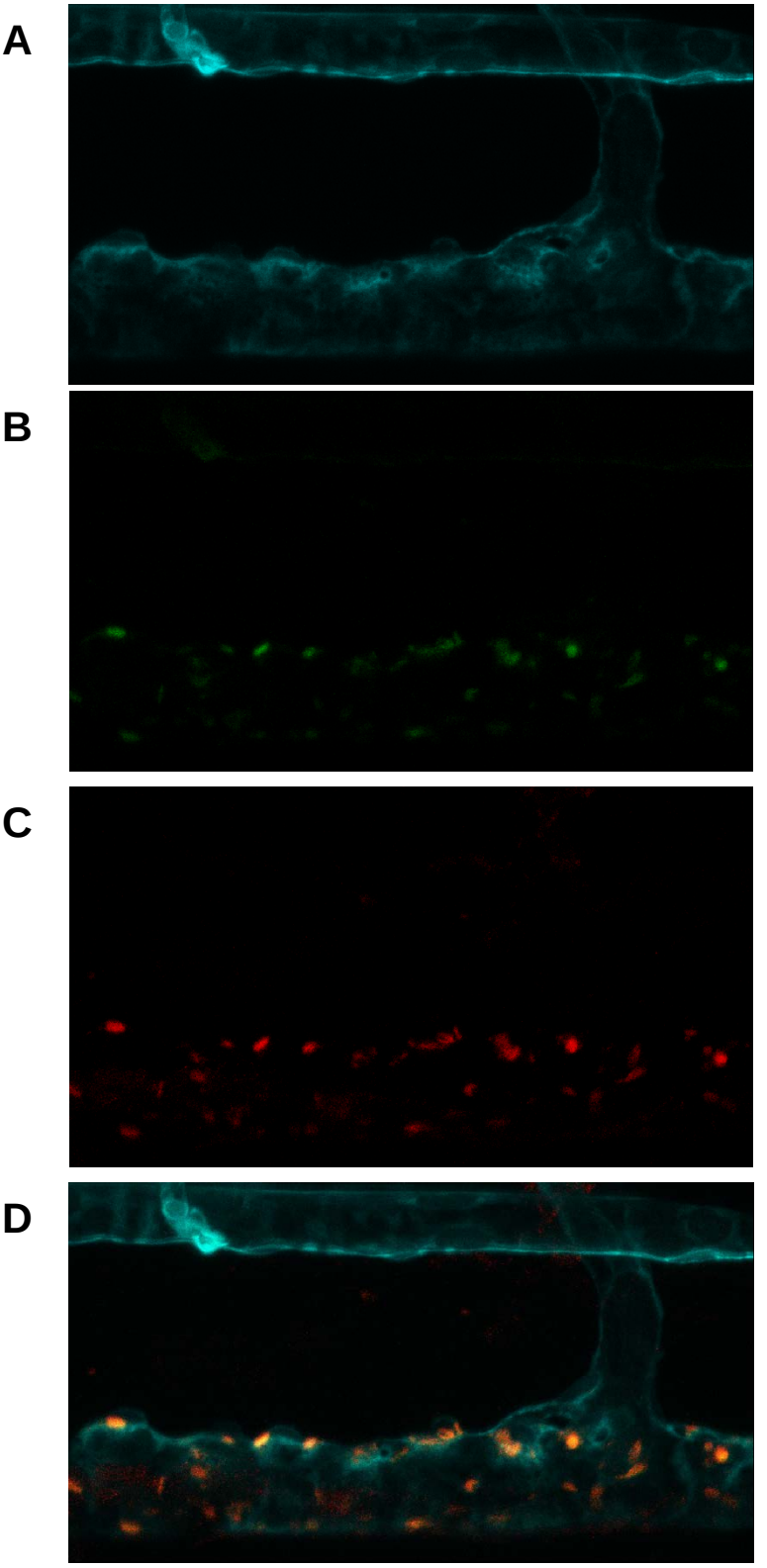


Supplementary Figure 1. Immunohistochemical analysis of adult *IgM1:eGFP* animals. Shown are kidney (top) and spleen (bottom) sections prepared from *IgM1:eGFP* (left) and non-transgenic control animals (right). Shown are merged images of DAPI (blue) and anti-GFP (green) staining. Images were taken with the 25X objective using a Leica SP5 inverted confocal microscope with the LAS AF acquisition and analysis software.



Supplementary Figure 2. Rag2-expressing cells are not observed in or near the zebrafish pancreas. Confocal imaging of *rag2:DsRed; insulin:GFP* fish at 7 dpf shows the pancreas and the thymus. This result is representative of six animals imaged between 4 and 11 dpf using a Leica SP5 inverted confocal microscope with the LAS AF acquisition and analysis software.

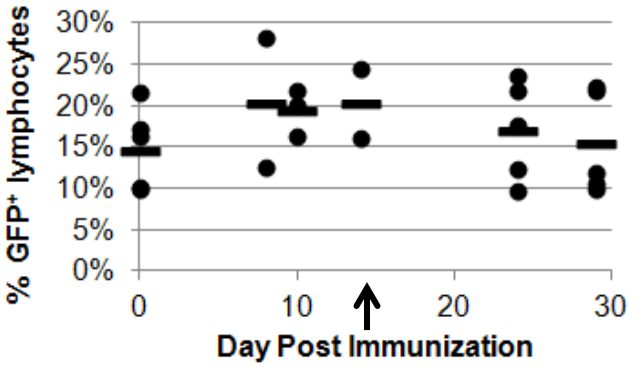
S3

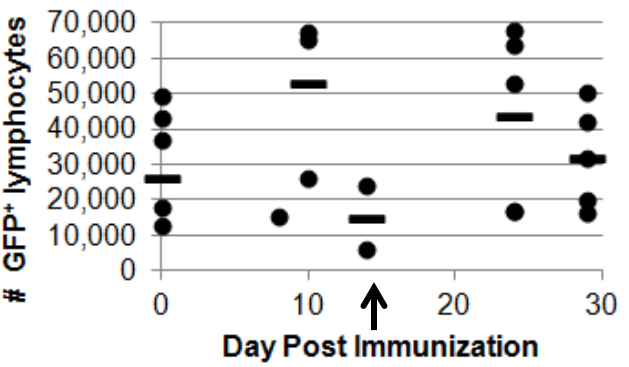


Supplementary Figure 3. IgM expression in *kdrl:cerulean; rag2:DsRed; IgM1:eGFP* fish. Confocal imaging of the area between the dorsal aorta and the posterior cardinal vein of *kdrl:cerulean; rag2:DsRed; IgM1:eGFP* fish at 22 dpf. Shown are the individual fluorescent planes for A) cerulean, B) GFP, and C) DsRed, as well as D) the merged image. These results are representative of results obtained with at least 3 individual fish of each type. All embryos were imaged in water at room temperature with a 25X objective using a Leica SP5 inverted confocal microscope with the LAS AF acquisition and analysis software.

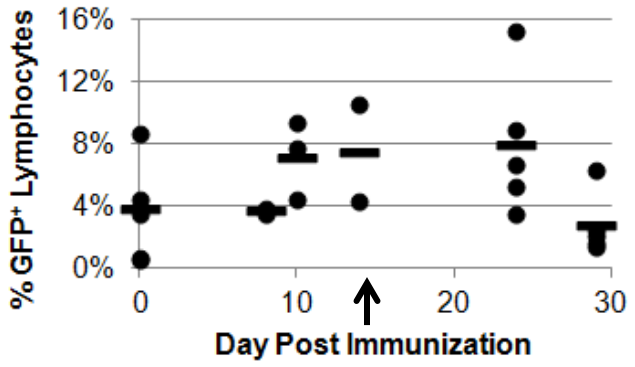
S4

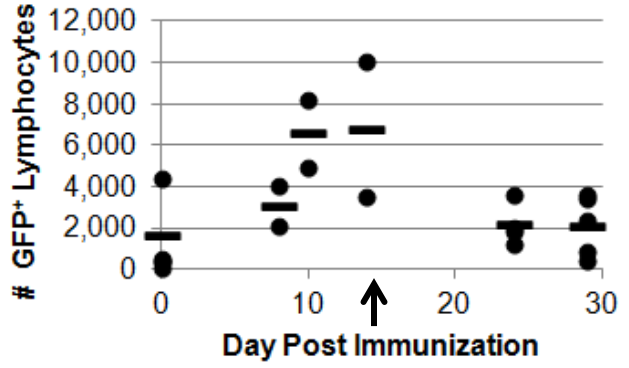
Kidney



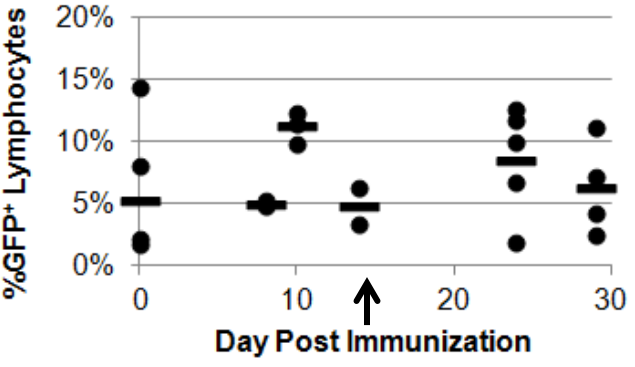


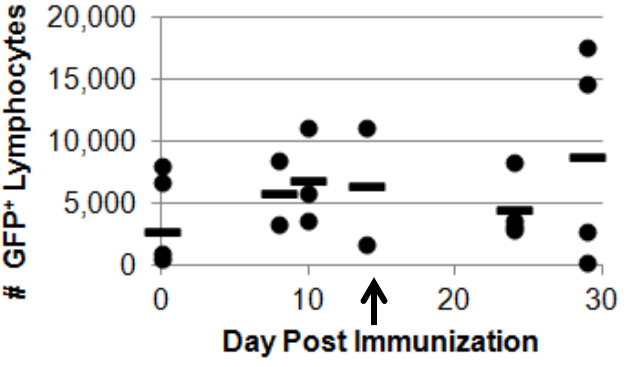
PEX



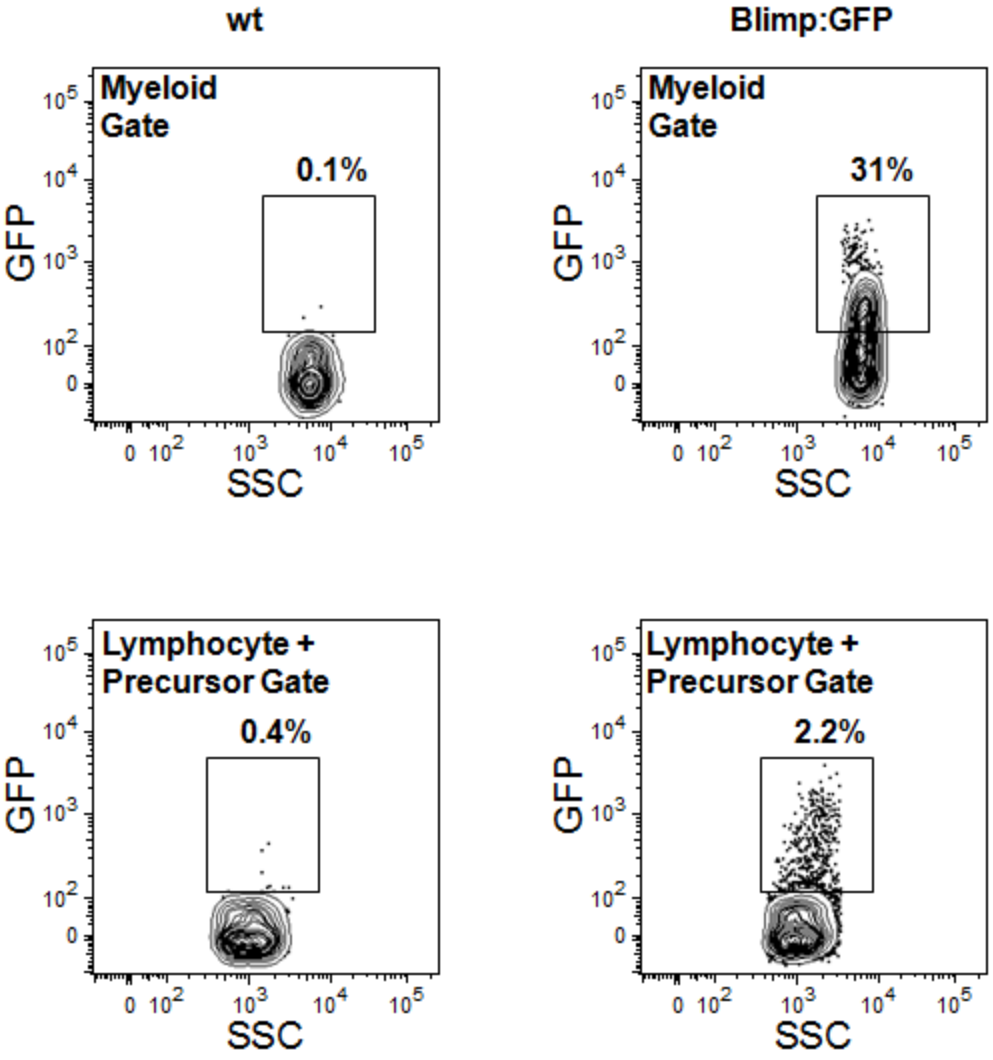


Gut





Supplementary Figure 4. Analysis of IgM+ B cells during an immune response. Adult *IgM1:eGFP* fish were injected i.p. with KLH in CFA and then boosted at day 14 with KLH in IFA. Kidneys, PEX, or gut were isolated from individual fish at the indicated times and analyzed by flow cytometry for the percentage (left) and total number (right) of GFP+ lymphocytes. Each point represents one fish, and the line represents the average response at that timepoint. The booster immunization is indicated with an arrow. Two independent experiments are represented in these data.



Supplementary Figure 5. Expression of the *blimp:GFP* transgene in kidney. Kidneys were isolated from adult wild-type (wt) or *blimp1:GFP* fish and analyzed by flow cytometry. Shown is the GFP/SSC profile of cells in the myeloid or combined lymphocyte and precursor gates.