

## Supplementary Table 1: Real-time RT-PCR primers

***csf1r:***

sense: 5'-CCTCCTCTGGTCCTGCTG

antisense: 5'-CATTCCACACTGCCATTGC

***Igr5***

sense: 5'-CAAGCCATGACCTTGGCCCTG

antisense: 5'-TTTCCCAGGGAGTGGATTCTATT

***cyclin D1***

sense: 5' AGGCTACAGAAGAGTATTTATGGGAAA

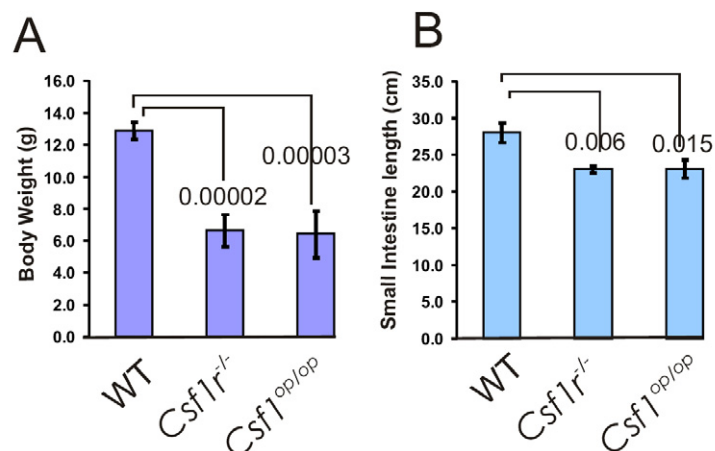
antisense: 5'-TGCGTTTGAATCAAGGGAGAT

***β2-microglobulin***

sense: 5'-TTCACCCCCACTGAGACT

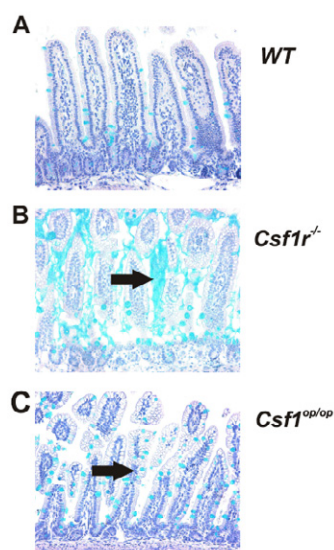
antisense: 5'-GTCTTGGGCTCGGCC

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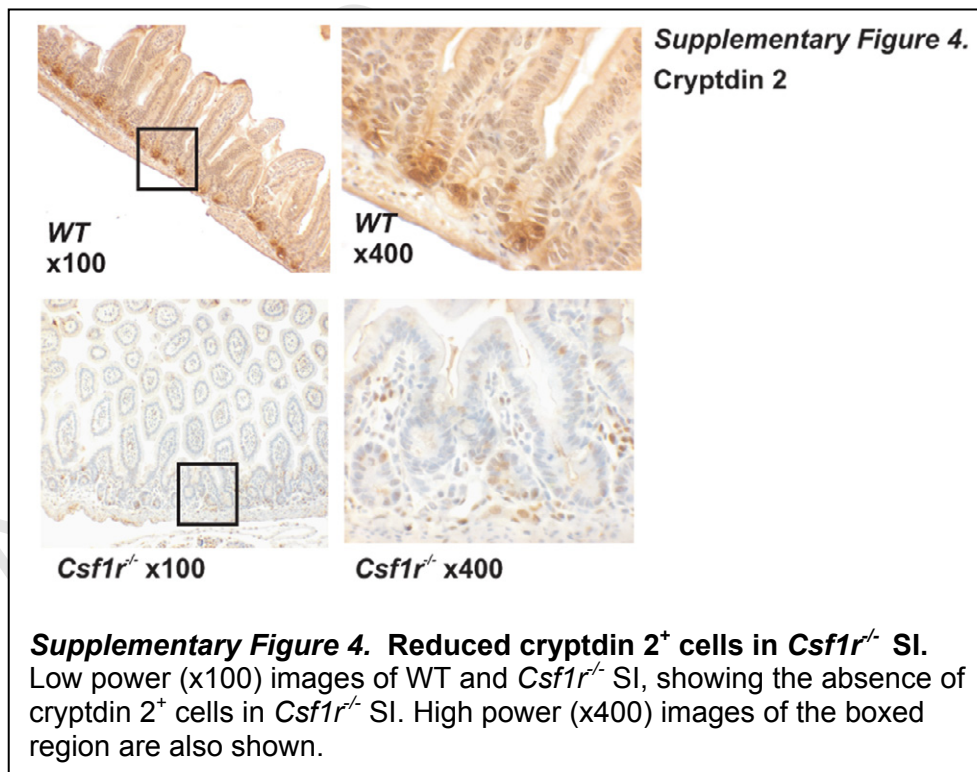
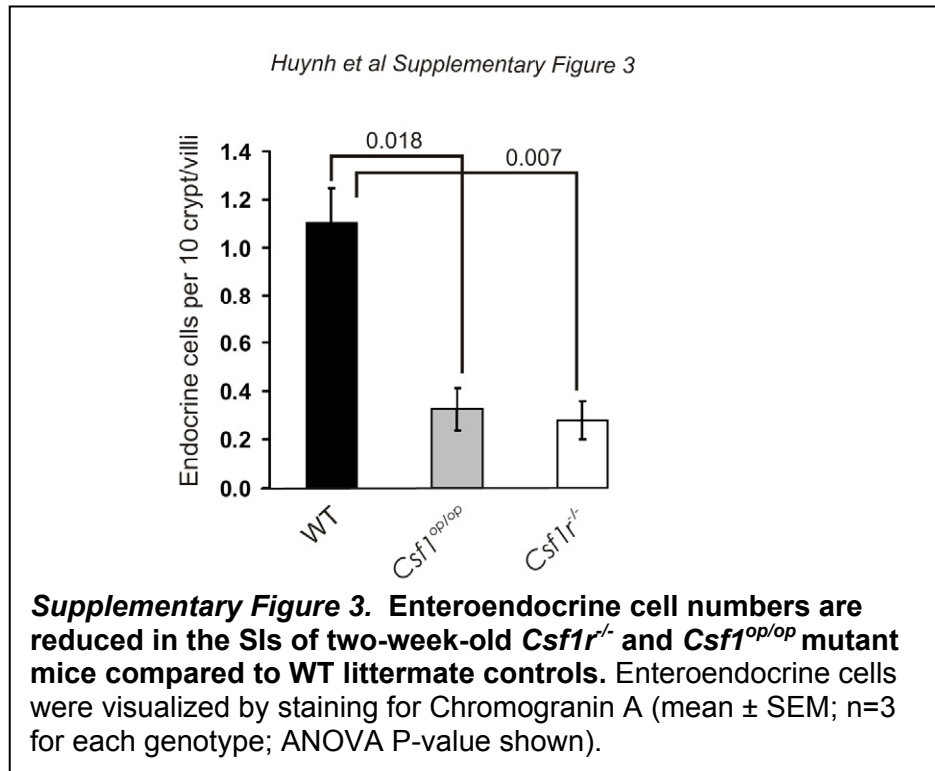
**Supplementary Figure 1. Two-week old *Csf1r*<sup>-/-</sup> and *Csf1*<sup>op/op</sup> mutant mice are smaller in size and have shorter small intestines.** (A) Body weight and (B) SI length (mean ± SEM; n=3 for each genotype; ANOVA P-value shown).

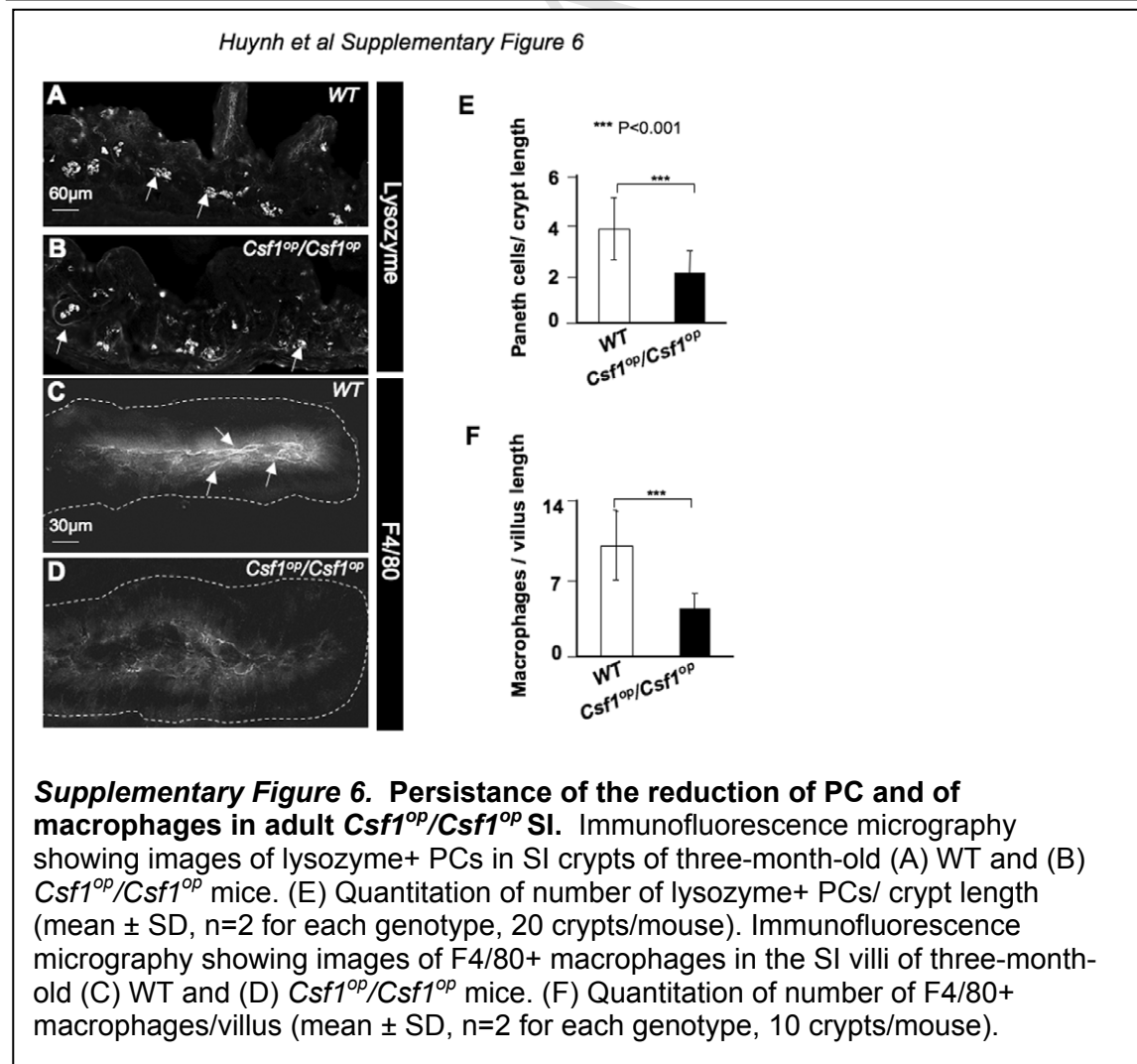
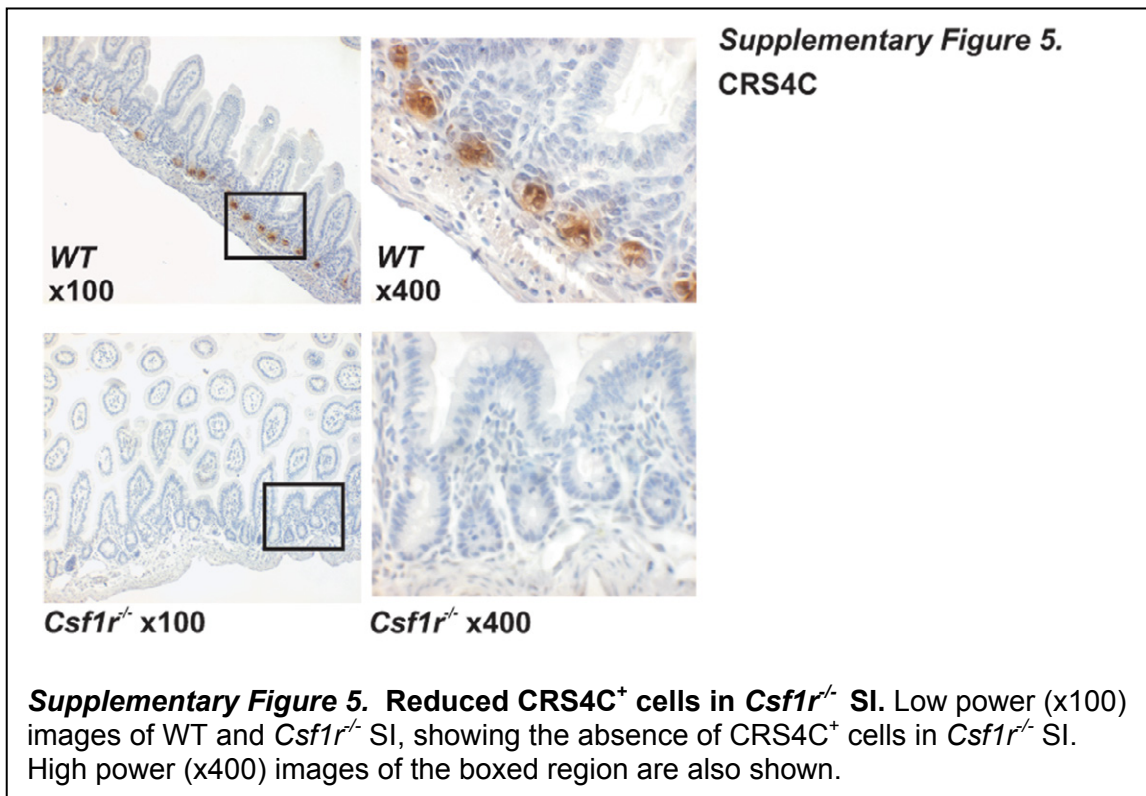
Huynh et al Supplementary Figure 2



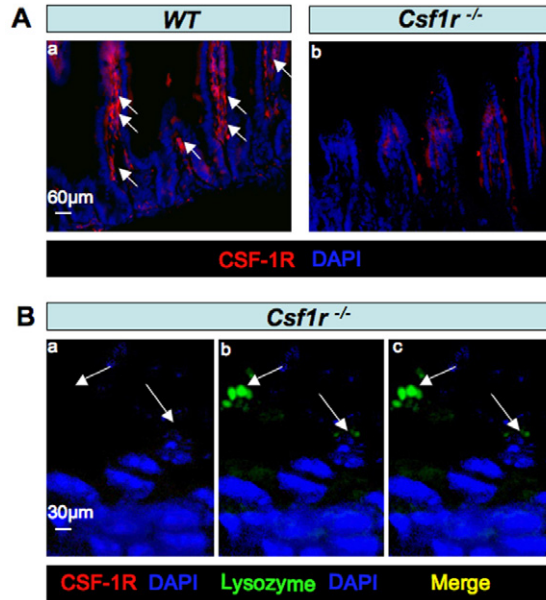
Alcian Blue staining

**Supplementary Figure 2. Two-week old *Csf1r*<sup>-/-</sup> and *Csf1*<sup>op/op</sup> mutant mice have multiple small intestinal defects.** *Csf1r*<sup>-/-</sup> and *Csf1*<sup>op/op</sup> mutant mice have defects in villus morphology and apparent overproduction of acid mucins (black arrows) by goblet cells, that are particularly pronounced in the *Csf1r*<sup>-/-</sup> mice. Alcian blue staining, scale bars = 50 μm.

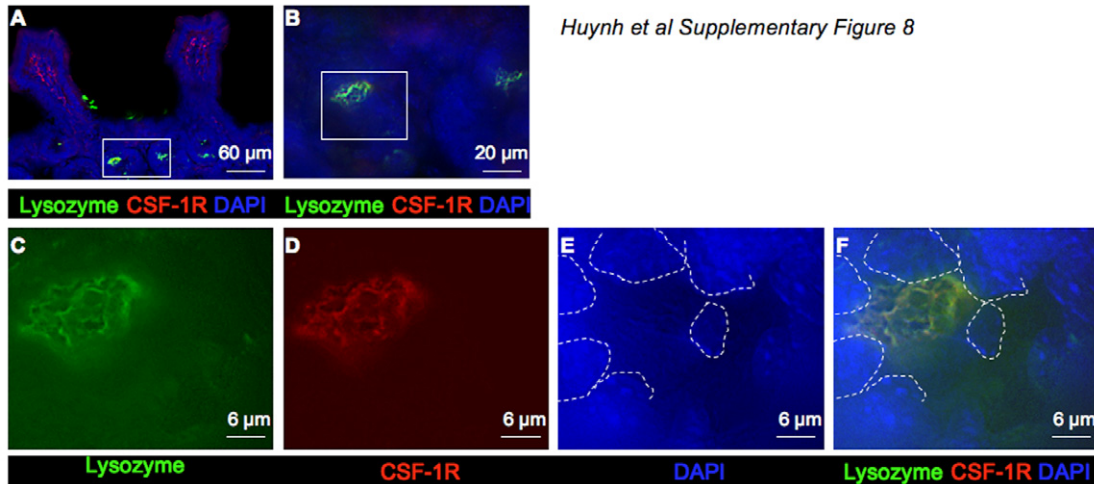




Huynh et al Supplementary Figure 7

**Supplementary Figure 7. Specificity of the anti CSF-1R antibody.**

(A) CSF-1R immunostaining of lamina propria macrophages (white arrows) in the SI of WT (a), but not of *Csf1r*<sup>-/-</sup> (b) mice at 2 weeks of age. (B) Failure of *Csf1r*<sup>-/-</sup> PC to stain with anti-CSF-1R antibody. PC of 2 week-old *Csf1r*<sup>-/-</sup> mice immunostained with antibodies lysozyme failed to exhibit any CSF-1R immunostaining (a-c).



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**Supplementary Figure 8. Colocalization of CSF-1R and lysozyme in PC by immunofluorescence micrography in WT mice.** Three-month old SI sections showing (A) Low power merged images of anti-lysozyme (green), anti-CSF-1R (red) and DAPI (blue) staining of PCs. (B) Higher power image corresponding to the region boxed in A. (C-F) Higher power images corresponding to the region boxed in B, showing co-localization of lysozyme staining (C, green) with CSF-1R staining (D, red) in the merged image (F). The DAPI staining of nuclei (E) is outlined in E and F. Lysozyme staining in PC occurs in Golgi, lysosomes and the mature secretory granules.<sup>45</sup> Note: Major staining of the CSF-1R in cultured macrophages occurs in the Golgi, consistent with the large pool of mature intracellular CSF-1R (F.J. Pixley and E.R.S. unpublished observations).

