

**Figure S2. Migration of CD8**  $T_{RM}$  in the SI is restricted, related to Figure 2. (A) Theoretical modeling of a single P14 CD8  $T_{RM}$  scanning a single villus. Error bars show the maximum and minimum volume patrolled over 100 simulations at a specific time. (B) CD45.1 or CD90.1 OT-I CD8 T cells were transferred to congenically disparate B6 mice and infected 1 day later with VSV-OVA. Greater than 30 days after infection, parabiosis surgery was performed. Flow plots show lymphocytes from spleen or IEL of both congenic OT-I population in the indicated hosts. Plots are gated on total CD8 T cells. The numbers reflect the percent of either OT-I population. (C) Schematic representation of photoconversion of OT-I/Kaede T cells in the SI. (D) Flow cytometric analysis of OT-I/Kaede IEL and LPL in the indicated sections of the intestine 7 days after photoconversion of the ileum. Plots are gated on OT-I/CD45.1 CD8 T cells. Sham surgery mice were used as unconverted controls.