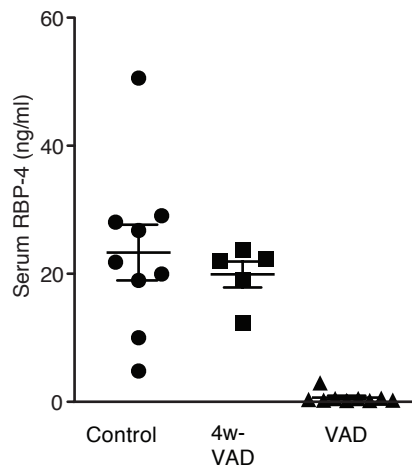
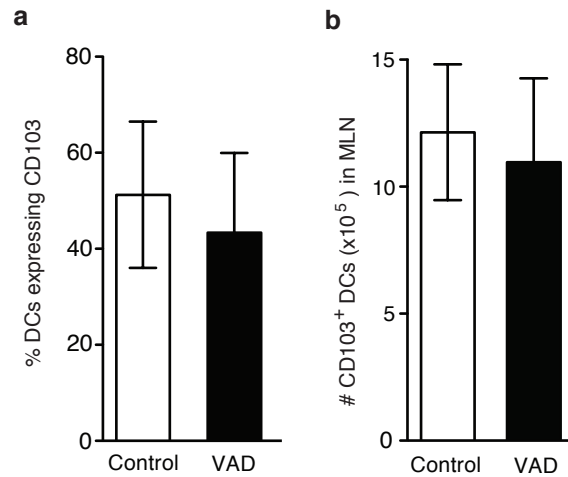


SUPPLEMENTARY FIGURE 1



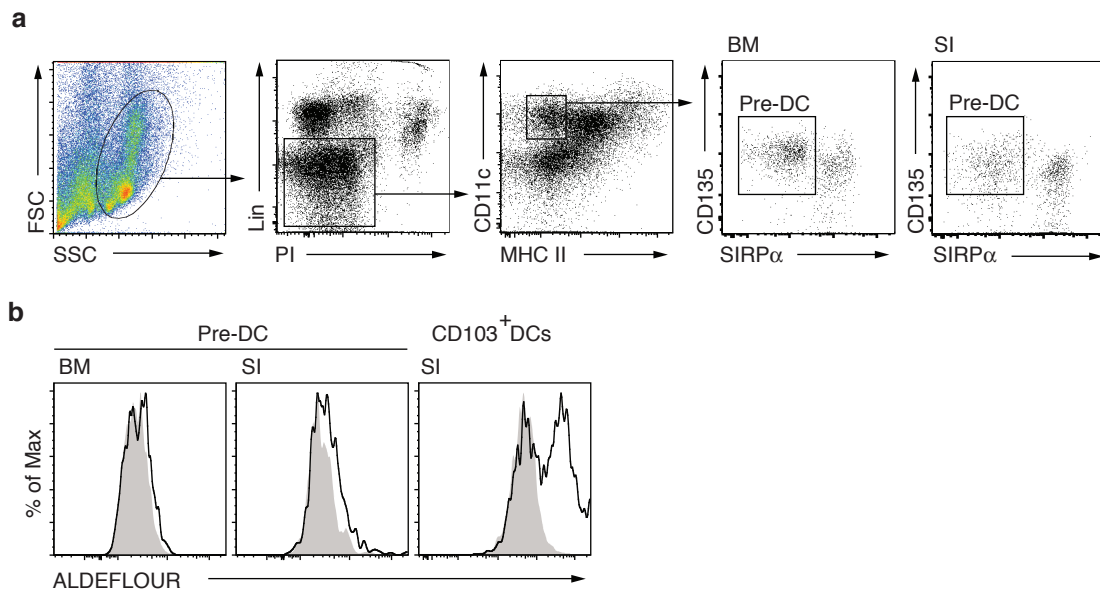
Supplementary Figure 1. Retinol binding protein (RBP)-4 levels in the serum of control, 4-week and long term-Vitamin A deficient (VAD) mice were assessed by ELISA as described in supplementary materials and methods. Each symbol represents RBP-4 levels from an individual mouse.

SUPPLEMENTARY FIGURE 2



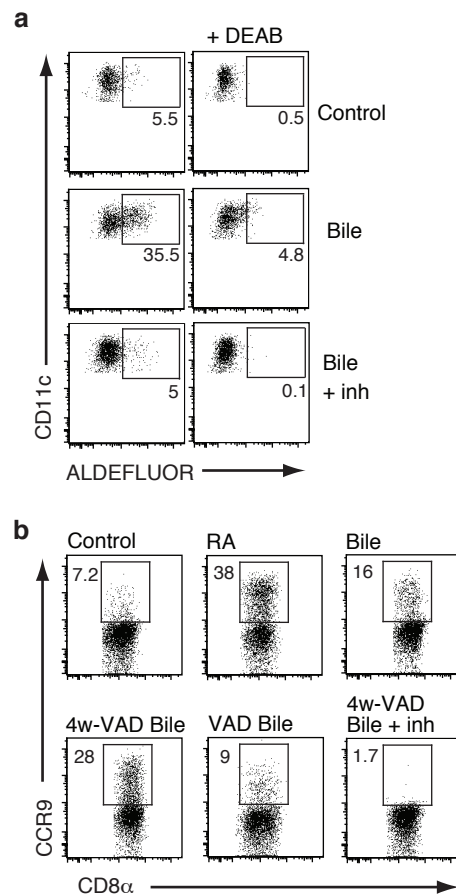
Supplementary Figure 2. Percentage **(a)** and total number **(b)** of CD103+ dendritic cells (DCs) in the mesenteric lymph node (MLN) of control and long term-Vitamin A deficient (VAD) mice was assessed by flow cytometry. **(a)** Mean (SD) of 5 independent experiments with 2-3 mice/experiment. **(b)** Mean (SD) 3 independent experiments with 2-3 mice/experiment.

SUPPLEMENTARY FIGURE 3



Supplementary Figure 3. Pre-dendritic cells (DCs) do not possess aldehyde dehydrogenase activity. **(a)** Gating strategy used to identify pre-DCs. CD11c⁺ cells were purified from the bone marrow (BM) and small intestine by MACS and pre-DCs identified within this population by flow cytometry. Lin⁻; CD3, CD19, NK1.1, Ter-119, B220. **(b)** Aldehyde dehydrogenase activity in bone marrow (BM) and small intestinal lamina propria (SI-LP) pre-DCs and control SI-LP CD103⁺CD11b⁺ DCs. Results are from 1 representative experiment of 2 performed using pooled cells from 2-3 mice/experiment.

SUPPLEMENTARY FIGURE 4



Supplementary Figure 4. (a) Representative FACS plots of aldefluor expression in bone marrow derived dendritic cells (BM-DCs) incubated with bile and/or LE540 (inh) (2 μ M) for 2d. Right sets of plots show ALDEFLUOR staining in the presence of the aldefluor dehydrogenase inhibitor diethylaminobenzaldehyde (DEAB). (b) Representative FACS plots of CC chemokine (CCR)9 expression on OT-I cells after incubation with antigen pulsed BM-DCs. BM-DCs were incubated with LE540 (2 μ M), retinoic acid (RA) (20 nM), bile, 4-week Vitamin A deficient (VAD) bile or VAD bile as indicated, for 2 d, pulsed with ovalbumin (OVA), washed and cultured together with OT-I cells. CCR9 expression on dividing OT-I cells was assessed 3.5 d later by flow cytometry.