## SUPPLEMENTAL FIGURES - METHODS

### Aorta preparation, cell sorting and microarray analysis.

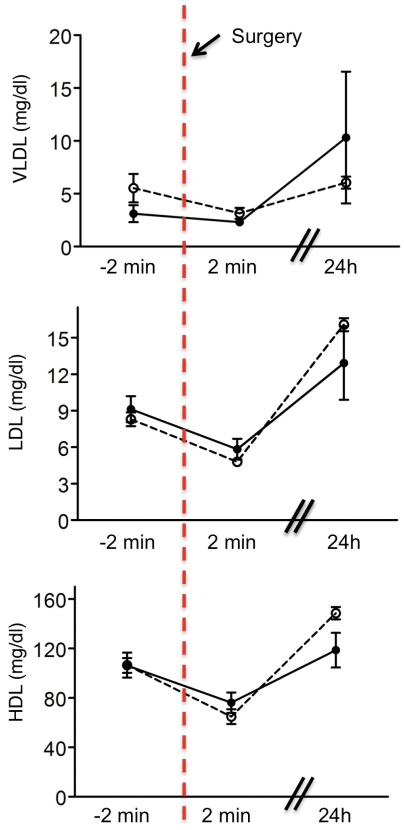
Aortas were harvested from apoE-deficient mice fed western diet for 11 weeks. Two weeks prior to harvest, adenovirus encoding apoE, an empty adenovirus or PBS was administeredi.v. Aortas were digested using an enzyme cocktail (Liberase TM or TH; Roche), and the cell suspension was stained using anti-mouse CD45, CD11b, F4/80 and CD31 mAbs. Macrophages (CD45+ F4/80+ CD11b+) and endothelial cells (CD45- CD31+) were sorted using a BD Facs Aria II sorter directly into Trizol, and RNA was isolated using the RNeasy Micro-RNA isolation kit (Qiagen). RNA was amplified and then hybridized on the Affymetrix Mouse Gene 1.0 ST array. Raw data were normalized using the robust multi-array algorithm. Heat maps were generated using the "Heat Map Viewer" module of GenePattern (http://www.broadinstitute.org/cancer/software/genepattern/). All datasets have been deposited at National Center for Biotechnology Information/Gene Expression Omnibus underaccession number GSE15907.

### Lymphatic clearance of dextran

To quantify lymphatic transport of dextran, we developed a simple clearance assay and performed it on mice treated to remove hair from ears one day earlier. 1 μl Cy5-Dextran (70 kDa; Nanocs) at a concentration of 2 mg/ml in sterile PBS was injected via a Hamilton syringe i.d. into the ear. Fluorescence was observed through skin using a fluorescence stereomicroscope (M205FA Leica) and images of the skin were acquired each minute for 15 min. using constant exposure time. Fluorescence intensity and exposure times were adjusted to ensure that intensity values were linearly proportional

to the actual fluorescence. Images were processed using ImageJ software and the rate of clearance was determined by first calculating the area under the curve (AUC) of fluorescence intensity in the injection region at each time point, normalized to the initial value. The normalized rate of fluorescence decay was then calculated from the slope of AUC vs. time. This was considered proportional to the actual rate of Cy5-dextran clearance. Left and right assessments were made in each ear, and the two normalized values were averaged to generate one mean value per mouse per site.

## Supplemental Figures and Legends




**Supplemental Figure 1.** Lipoproteins in plasma 2 minutes before, 2 minutes after, and 24 h after surgical separation of lymphatic vessels (dotted lines) compared with sham controls (solid lines). Red line indicates time of surgical separation.

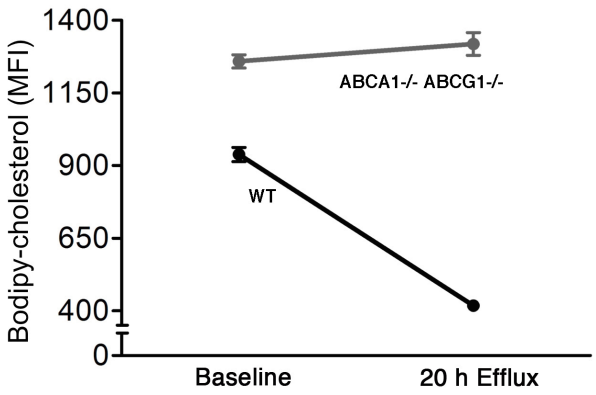
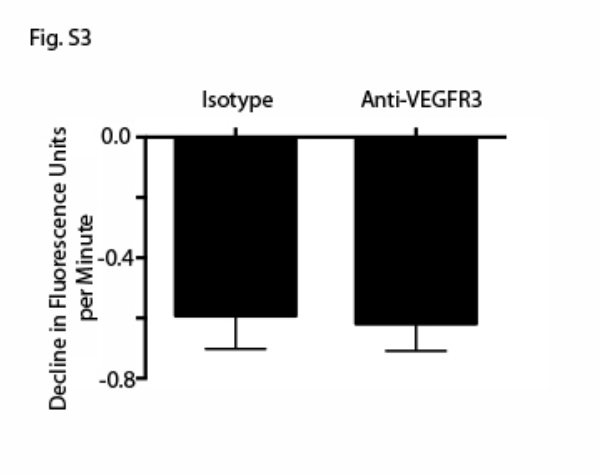


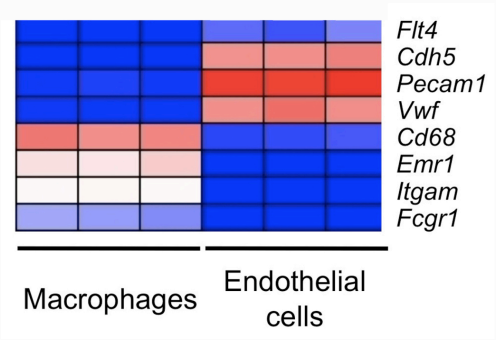

Fig. S2

**Supplemental Figure 2**. Bone marrow-derived macrophages from WT (Abca1$^{+/+}$/Abcg1$^{+/+}$) or *Abca1*$^{-/-}$*Abcg1*$^{-/-}$ mice were loaded with Bodipy-cholesterol and unlabeled acetylated LDL. Flow cytometry was used to assess fluorescence intensity from Bodipy at baseline or after macrophages were allowed to efflux cholesterol for 20 h in the presence of 5% mouse serum. Data represent one experiment performed with 3 different dishes of cultured macrophages per experimental group. Data are mean ± SD generated from the 3 different dishes per genotype.




**Supplemental Figure 3.** The clearance of fluorescent dextran was quantified from the ears of apoE-/- that were included in the aortic transplant study. Mice treated with anti-VEGFR3 were compared with those treated with control mAb to assess the effect of the anti-VEGFR3 mAb on lymphatic transport in vivo. This assay was conducted on the surgical pairs just hours prior to euthanizing the mice after 4 weeks of antibody treatment. Data were obtained in four of the five surgical pairings treated with control or anti-VEGFR3 and plotted here as loss of fluorescence from the ear (arbitrary units) per minute.

Fig. S4




**Supplemental Figure 4**. Whole mouse genome Affymetrix arrays were carried out on sorted macrophages or $CD31^{+}$ endothelial cells isolated from digested $apoE^{-/-}$ aortas collected at 15 weeks of age, fed a Western-type diet since 6 weeks of age. The VEGFR3 gene Flt4 did not reach the threshold considered to be positive expression in macrophages, though other macrophage markers were elevated as expected. Sorted endothelial were a mixture of blood and lymphatic endothelial cells. Weak expression of flt4 was observed, consistent with lymphatic endothelial cells being present in the mixture but dominated by vascular endothelial cells.