## Supplemental Methods

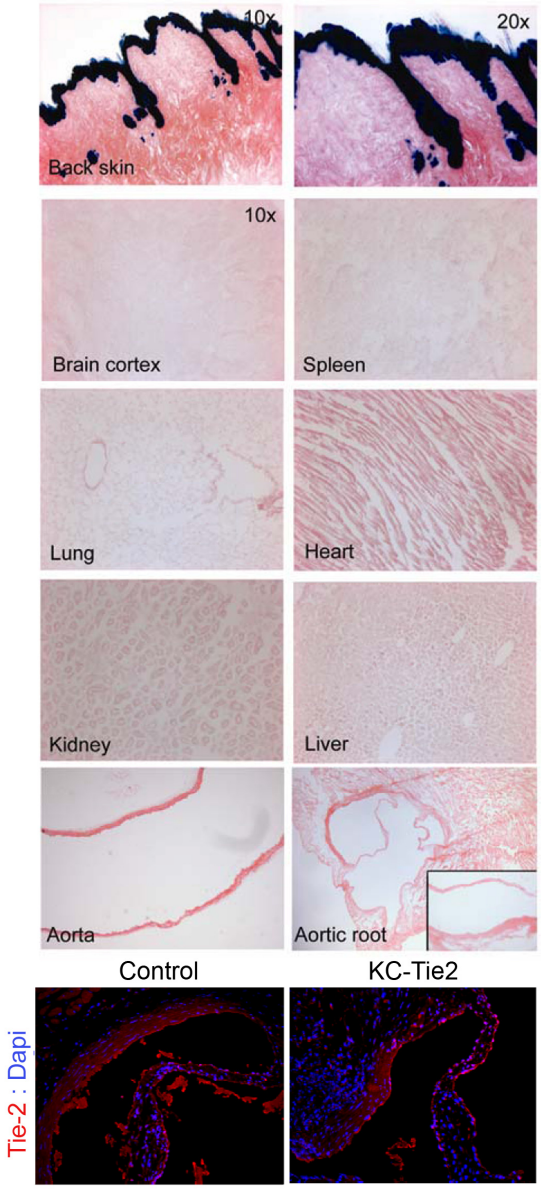
***Immunohistochemistry.*** Immunohistochemistry was performed on 5μm serial paraffin sections of aortic root to assess the accumulation of immune cells in control mice and KC-Tie2 mice with lesions. Briefly, tissues were rehydrated with PBS and blocked with 10% serum of secondary antibody host species for 30 minutes. Following 1-hour incubation with primary antibodies, sections were incubated with biotinylated secondary antibodies. Horseradish-peroxidase–conjugated (HRP-conjugated) ABC amplification system (Dako) was used with all immune cell antibodies, and reactivity was visualized by 3,3-diaminobenzidine (DAB) substrate. Antibodies used: CD45 (BD Pharmingen) for leukocytes, Mac-3 (BD Pharmingen) for macrophages, CD3 (Santa Cruz) for T cells, B220 (BD Pharmingen) for B cells. Images were captured using a Zeiss digital camera (AxioCam MRc5) and quantified using Zeiss Axiovision software (Rel 4.5). Data was presented as percentage of positive staining area, defined as the fraction of immune-positive staining to total area measured.

***Protein analysis.*** Serum was collected from cardiac punctures and frozen for later use. Murine IL-17, IL-12p70, VEGF, MCP-1 and TNF-α (R&D Systems, Minneapolis, MN; Millipore Corp., Billerica, MA) expression was quantitated by Enzyme Linked Immunosorbant Assay (ELISA) according to the individual manufacturer's instructions.

***Flow cytometry.*** Flow cytometry was performed on a FACSDiva LSRII (Becton Dickinson) and analyzed using Winlist. Gates were set on isotype controls for CD90, B220, CD49, NK1.1 and Ly-6G then isotype for CD11b. Cells

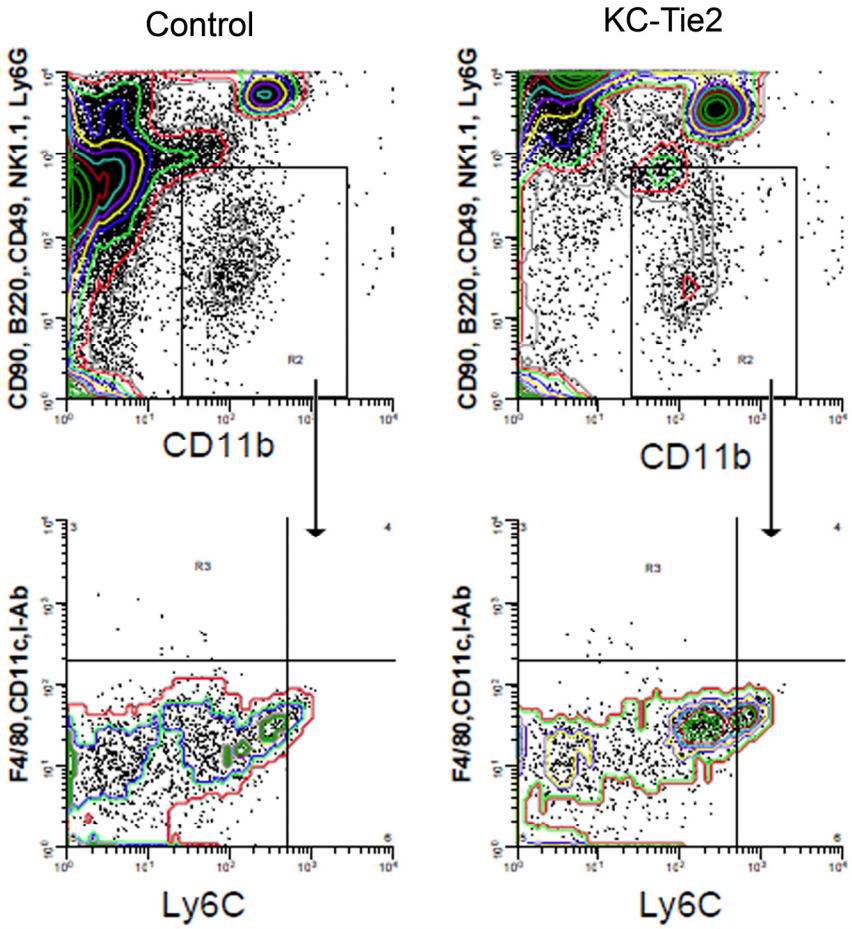
expressing CD11b and negative for other markers were electronically gated and analyzed for expression of Ly-6C and the monocyte/macrophage markers F4/80, CD11c and I-Ab. The percent expression of these markers was determined by comparison to isotype control.

## Supplemental Results




**Supplemental Figure 1**. Transgene expression is confined to the keratinocytes in skin and no misexpression is observed in the aortic arch. K5tTA driver mice were mated with the Tet$^{os}$ nuclear localization signal (nls) LacZ reporter responder mouse line to examine the gene expression driven by the K5 promoter. Organs from adult mice were harvested, sectioned and stained for LacZ. Expression analyses demonstrate exclusivity of the expression to the

epidermis of the skin. Little to no LacZ staining was observed in the aorta of KC-LacZ animals. Confirmation of lack of Tie2 expression was completed using Tie2 immunofluorescence staining on control and KC-Tie2 aortic roots. No differences were observed between the control and KC-Tie2 mice.




**Supplemental Figure 2**. Pro-atherogenic circulating blood monocytes are increased in blood of KC-Tie2 animals. Pan leukocytes were gated using monoclonal antibodies specific to CD90, B220, CD49b, NK1.1 and Ly-6G. Leukocyte$^{lo-}$CD11b$^{hi}$ cells were gated and then analyzed for F4/80, I-Ab and CD11c and Ly-6C. Pro-atherogenic circulating blood monocytes are defined as CD90$^{lo}$B220$^{lo}$CD49b$^{lo}$NK1.1$^{lo}$Ly-6G$^{lo}$CD11c$^{lo}$I-Ab$^{lo}$F4/80$^{lo}$CD11b$^{hi}$Ly-6C$^{hi}$. Representative flow cytometry plots for control and KC-Tie2 animals are shown.