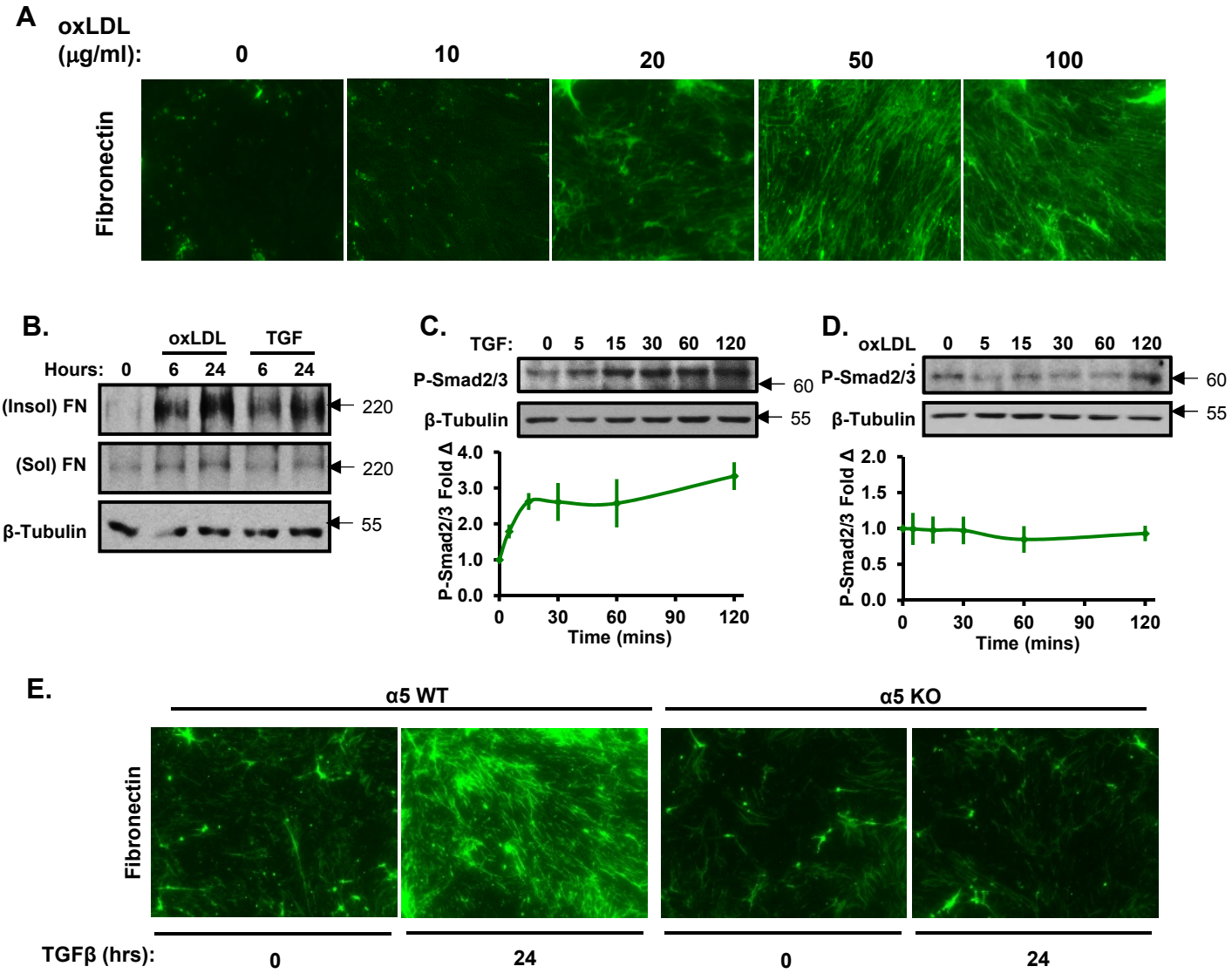
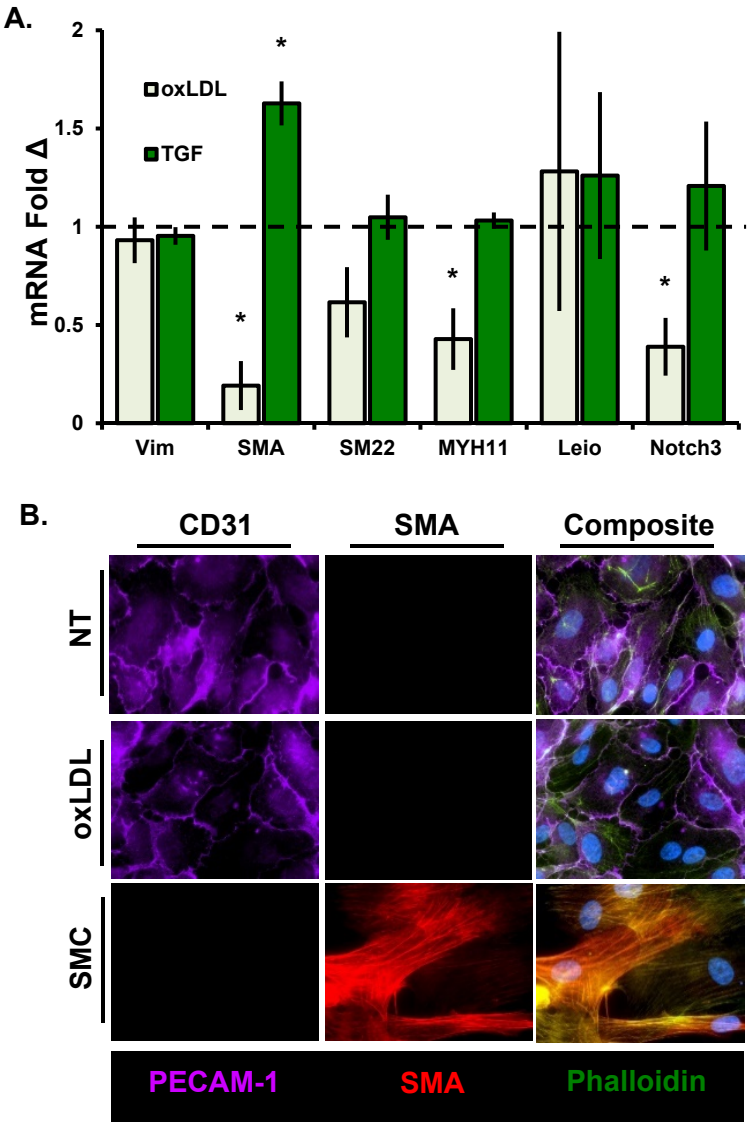
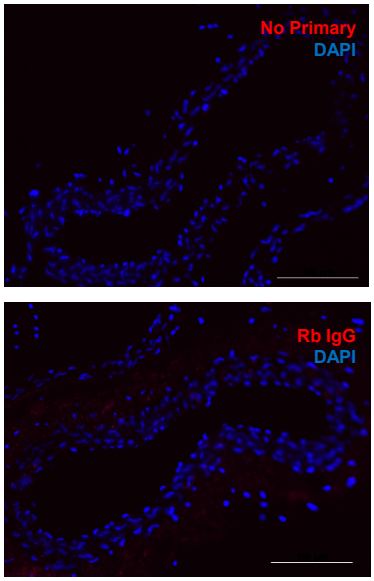


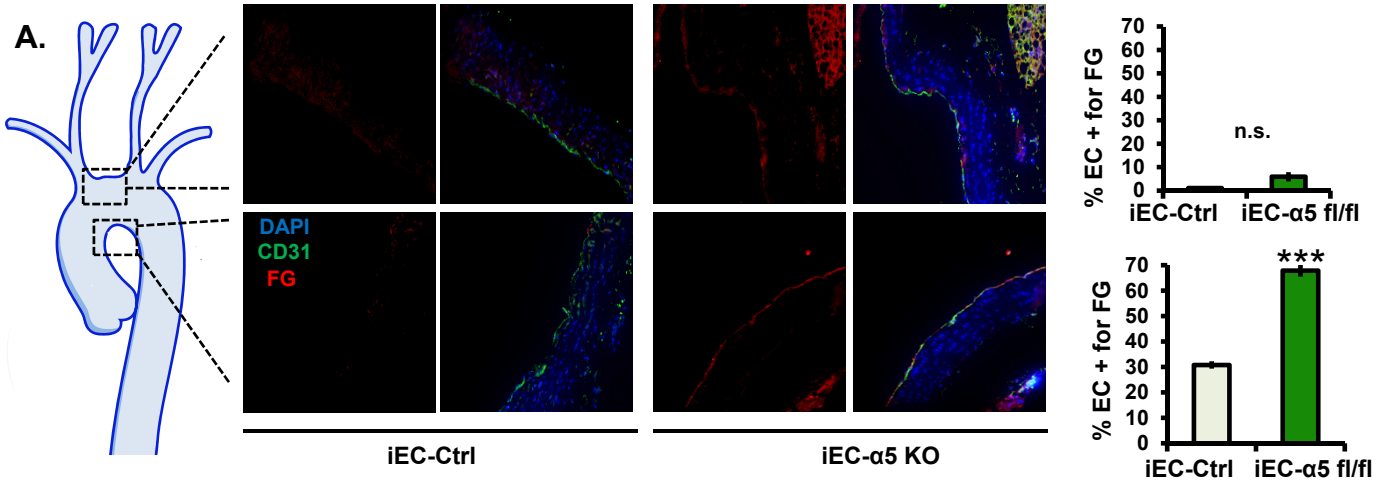
Supplementary Figure I. A) Dose curve of fibronectin deposition in response to oxLDL. n=3. B) HAECs were treated with oxLDL (100 ug/ml) or TGFβ (10 ng/ml) for the indicated times. Cells were lyzed in DOC-containing buffer, followed by blotting for fibronectin. Representative Western blots are shown (n=3). C/D) HAECs were treated with either TGFβ (B) or oxLDL (C) for the indicated times, followed by analysis of Smad2/3 activity. Representative Western blots are shown (n=3). E) α5 WT and KO MAECs were treated with TGFβ (10 ng/ml) for 24 hours, followed by fibronectin extraction. Immunocytochemistry was performed to visualize fibronectin= 3.

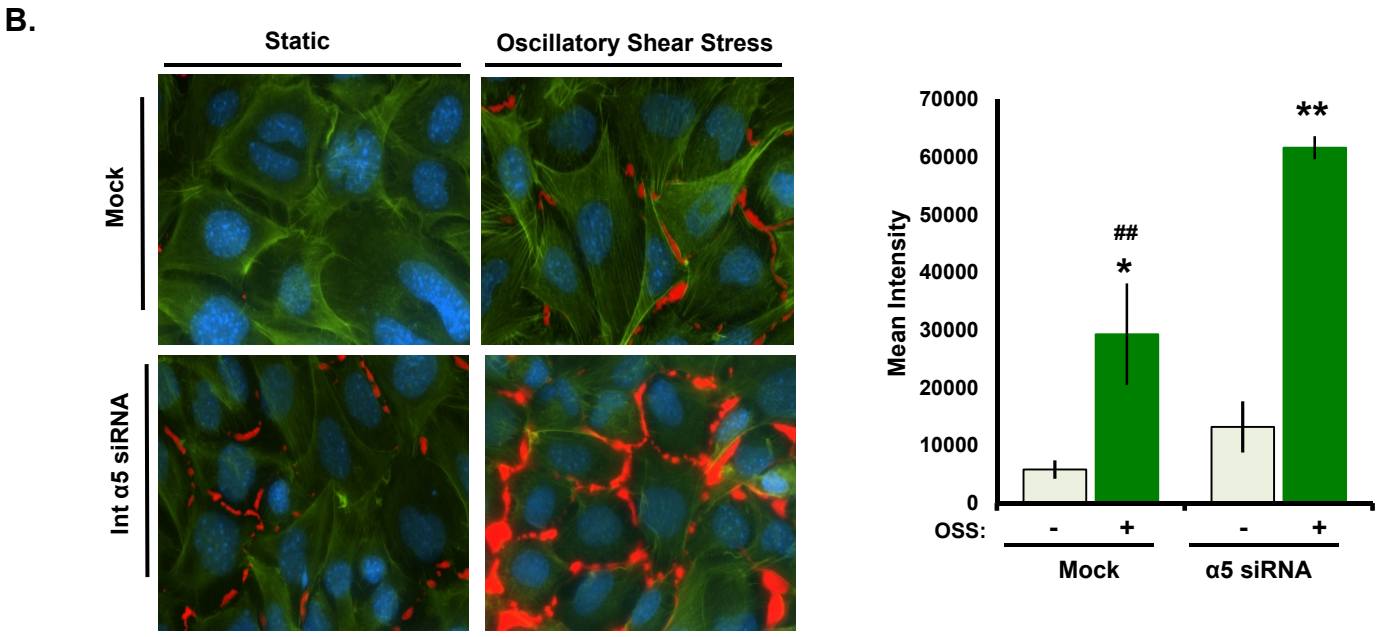


Supplementary Figure II. A) HAECs were treated with oxLDL or TGFβ for 3 hrs, followed by mRNA analysis using quantitative real-time polymerase chain reaction for several EndMT markers including Vim, SM22, MYH11, Leio, and Notch3. n=3. B) HAECs were treated with oxLDL, followed by fixation and immunostaing for SMA, CD31 (endothelial marker), and phalloidin. Representative images are shown (n=3). C) HAECs were plated on BM and treated with oxLDL for the indicated times, followed by mRNA analysis for fibronectin. n=3. Values are means±SE. *P<0.05 compared with no treatment condition.



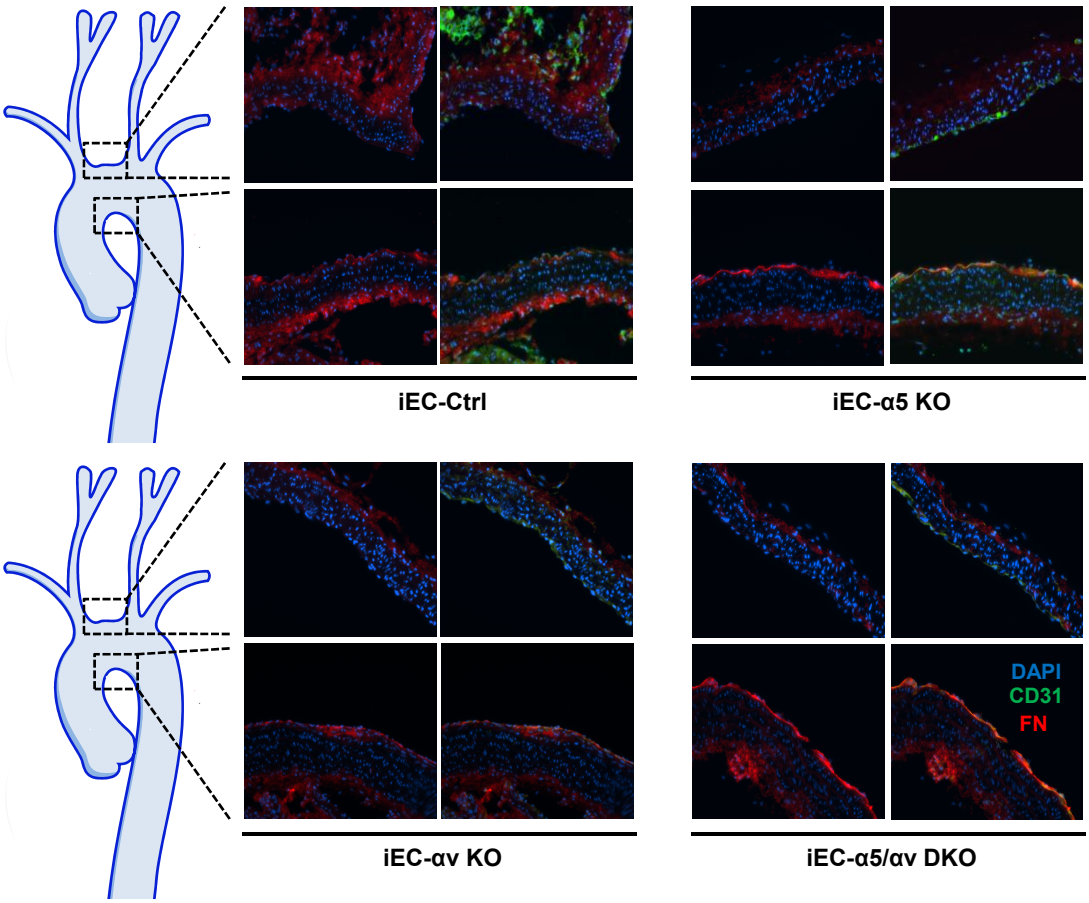
Supplementary Figure III. Representative images of non-immune immunoglobulin controls using either secondary antibody only or rabbit IgG and secondary antibody.



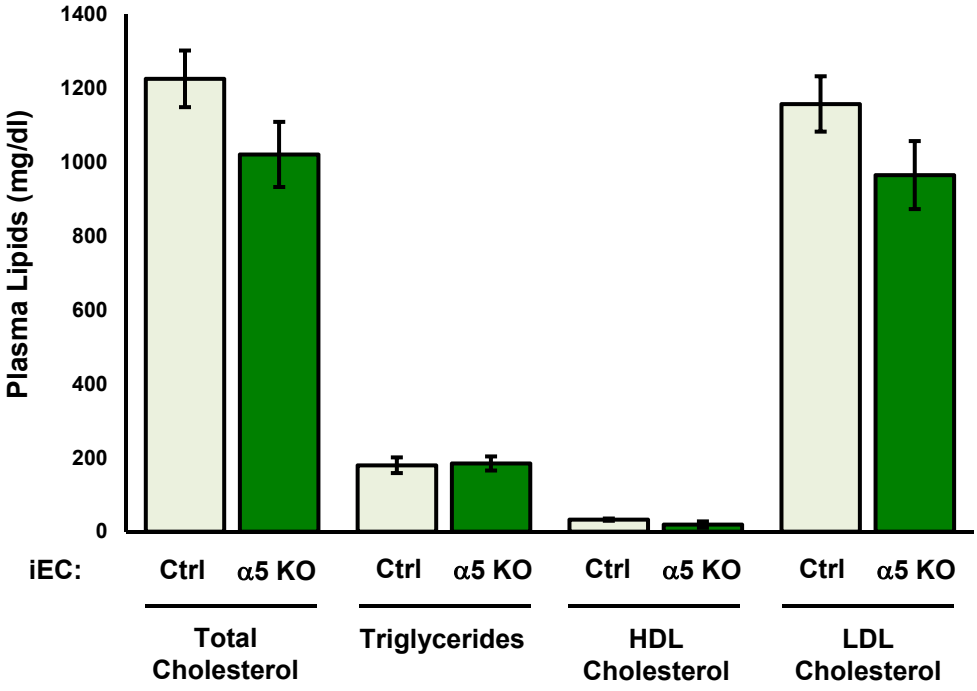


Supplementary Figure IV. A) Sections of aortic arch from iEC-Ctrl and iEC-α5 KO mice were stained for the leak of plasma protein fibrinogen into the vessel wall. Representative images are shown (n=5). B) HAECs were transfected with α5 siRNA and plated on biotinylated gelatin coated slides overnight, followed by exposure to oscillatory shear stress for 18 hours. Subsequently, streptavidin-Alexa647 was added to the cells to visualize permeable areas, and cells were immunostained with Alexa488-phalloidin to visualize cell structure. Representative images are shown (n=4). Values are means±SE. *P<0.05, **P<0.01, ***P<0.001 compared with the control. ##P<0.01 compared with α5 siRNA.

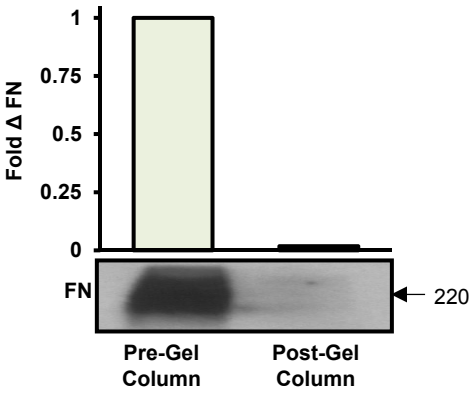
Supplemental Figure 4



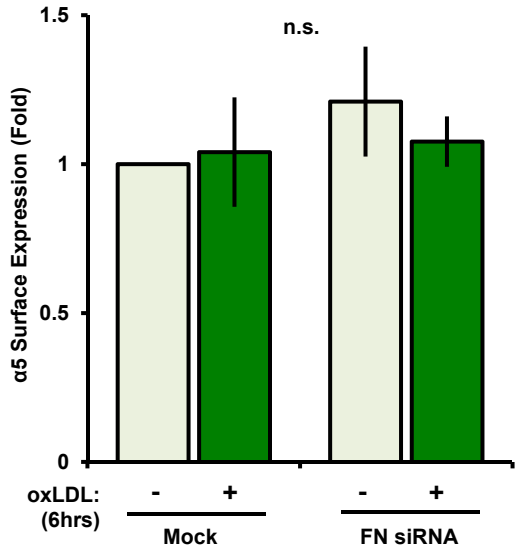
Supplementary Figure V. Representative images of fibronectin staining of aortic arch sections from iEC-Ctrl and iEC-α5 KO, iEC-αv KO, and iEC-α5/-αv double knockout DKO mice. n=5-6 of each group.



Supplementary Figure VI. Plasma from iEC-Control and iEC-α5 KO mice were analyzed for total cholesterol, triglycerides, HDL cholesterol, and LDL cholesterol. No significant differences were identified.



Supplementary Figure VII. Western blot for fibronectin in FBS before and after passage through a gelatin sepharose column to deplete fibronectin.



Supplementary Figure VIII. HAECs were transfected with FN siRNA and treated with oxLDL for 6 hrs. Surface expression of $\alpha 5$ was analyzed using FACS.