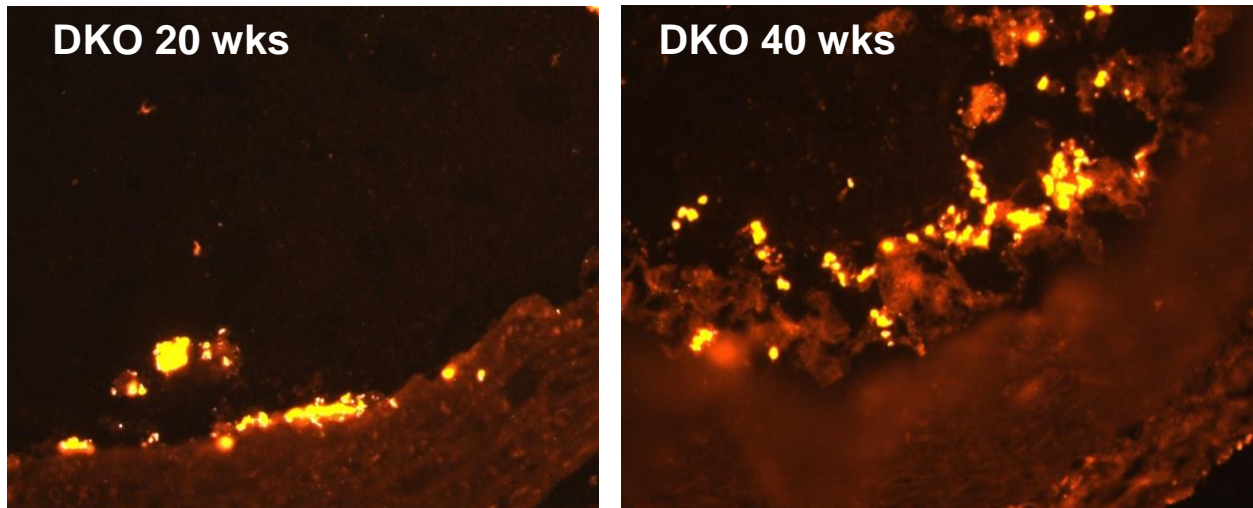
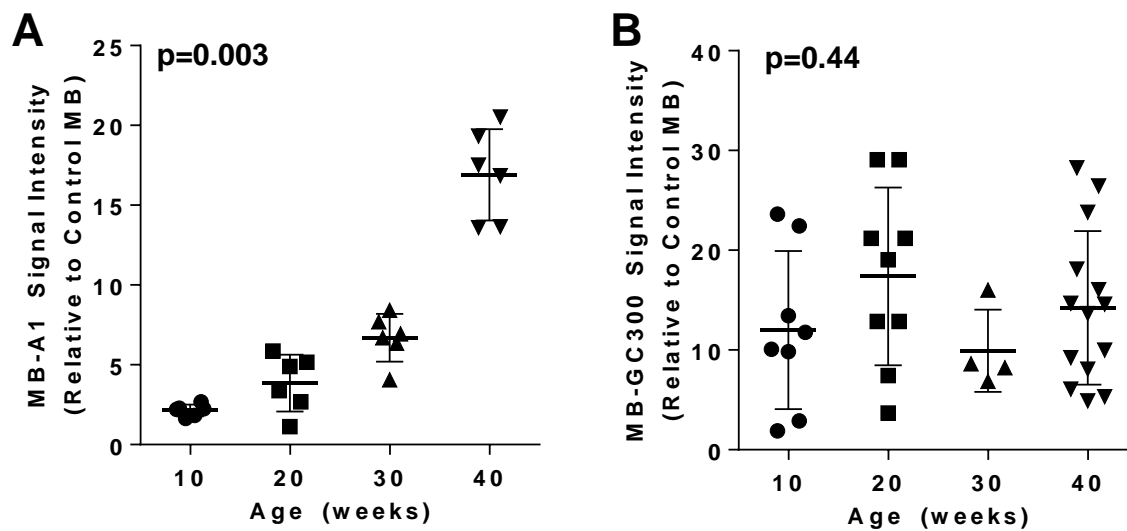


## SUPPLEMENTAL FIGURES AND VIDEO LEGEND

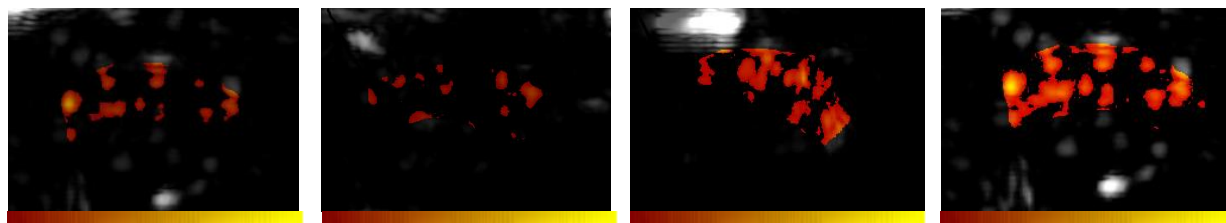


**Supplemental Figure 1.** Example of immunostaining of  $\beta$ 3-integrin from a 20 week and 40 week old DKO mouse illustrating an increasing number of platelets on the plaque luminal surface.

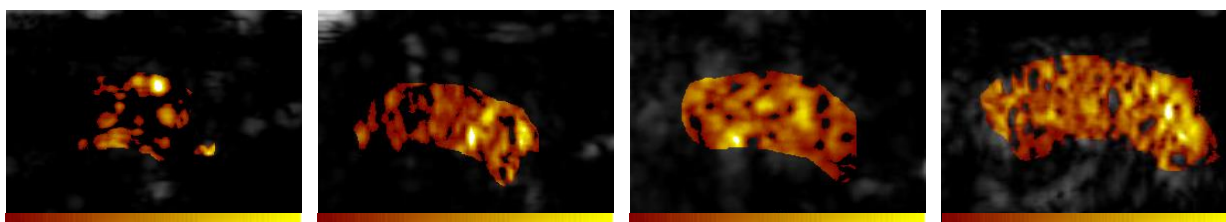


**Supplemental Figure 2.** Signal intensity (mean $\pm$ SEM) for (A) MB-A1 or for (B) MB-GC300 displayed as a difference from control MB (Kruskal-Wallis  $p=0.13$ ). The dashed line represents equivalency of signal to control MB. P values represent Kruskal-Wallis tests.

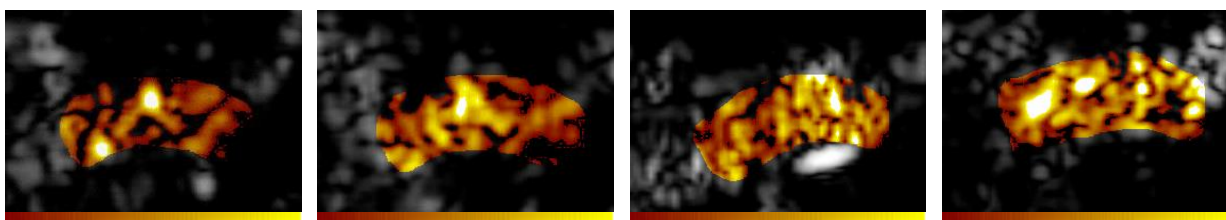
## CEU MB



## CEU MB-A1



## CEU MB-GC300



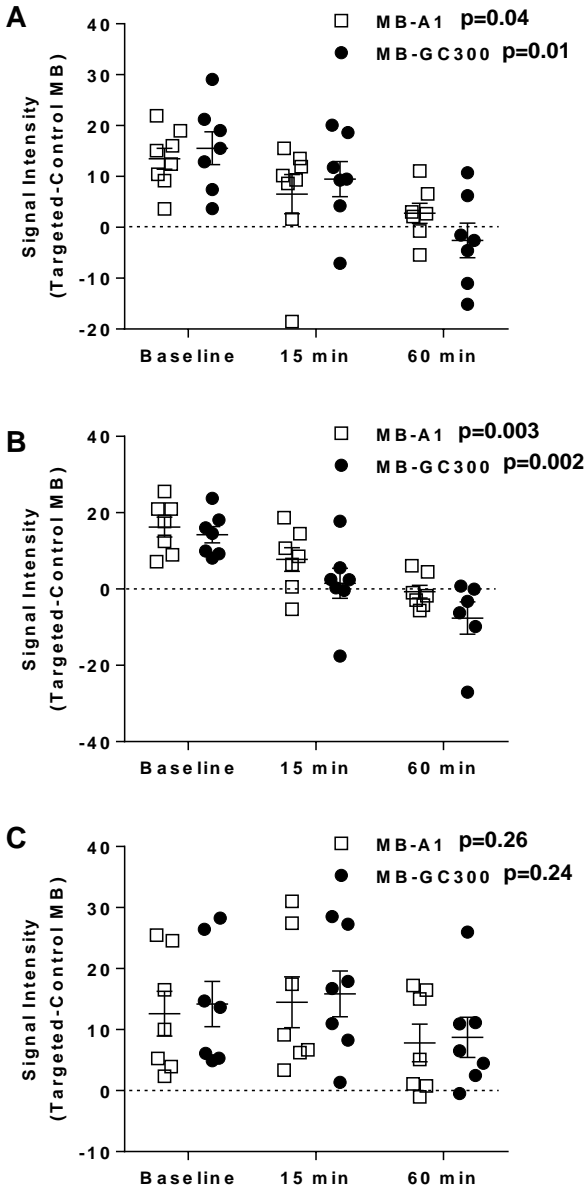
10 wk

20 wk

30 wk

40 wk

**Supplemental Figure 3.** Examples of background-subtracted color-coded (scale at bottom) CEU molecular imaging of the aortic arch at various ages with control microbubbles (MB) and microbubbles targeted to platelets (CEU MB-A1) and to VWF (CEU MB-GC300).



**Supplemental Figure 4.** Signal intensity (mean $\pm$ SEM) on in vivo CEU molecular imaging of the thoracic aorta for MB-A1 and MB-GC300 at baseline and after (15 and 60 min) I.V. administration of either (A) ADAMTS13 in 20 wk DKO mice; (B) ADAMTS13 in 40 wk DKO mice; or (C) vehicle in 40 wk DKO mice. Data are displayed as difference between targeted and control MB signal so that the dashed line represents equivalency of signal to control MB. P values are calculated by Kruskal-Wallis test.

**Supplemental Video.** Video obtained during *en face* microscopy of the aortic endothelial surface in the flow chamber after infusion of fluorescent nanospheres. The video was obtained during continuous flow after infusion of VWF-targeted nanospheres. At the end of the clip acute increases in flow are produced by manual increase in the pre-chamber pressure which results in an undulating appearance of the aggregate.