Supplemental Figure Legends

Supplemental Figure 1. (A) Co-localization of osteogenic signal (red fluorescence, left) with osteoblast-like cells (alkaline phosphatase activity, ALP, right) in the tissue section through the area of active mineralization in atherosclerotic lesion of mouse injected with Osteosense680. (B) Co-localization of fluorescence NIR nanoparticle (red fluorescence, left) with macrophages shown as mac-3-positive cells (right) in atherosclerotic lesion. Bar=50um.

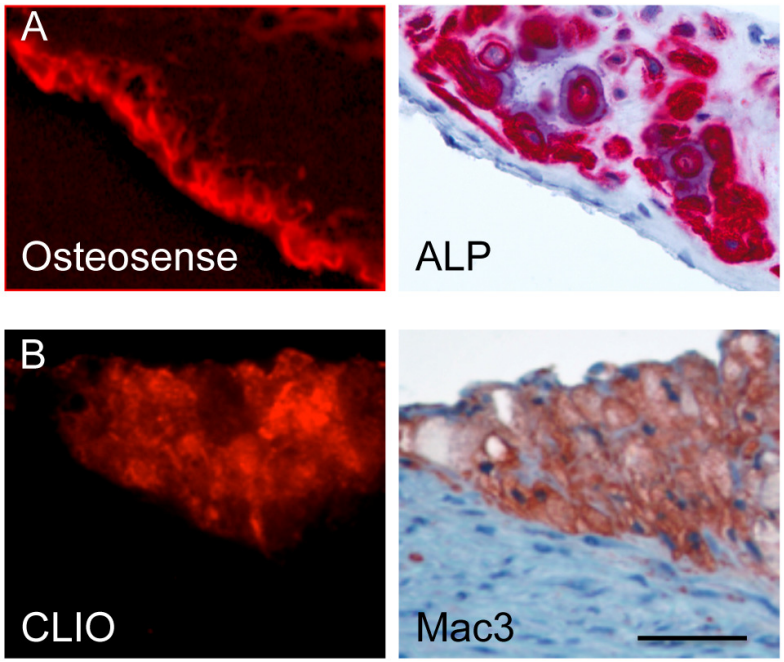
Supplemental Figure 2. Calcification increased in aortas of CRD apoE-/- mice Macroscopic fluorescence reflectance imaging of calcification yielded strong Osteosense680-derived osteogenic signal in atherosclerotic mice with CRD. Bar=1cm.

Supplemental Figure 3. (A) Carotid arteries and (B) aortic valves showed notable increase in alkaline phosphatase activity (red reaction product) in apoE-/- and CRD apoE-/- mice compared to wild type mice. Bar=50um.

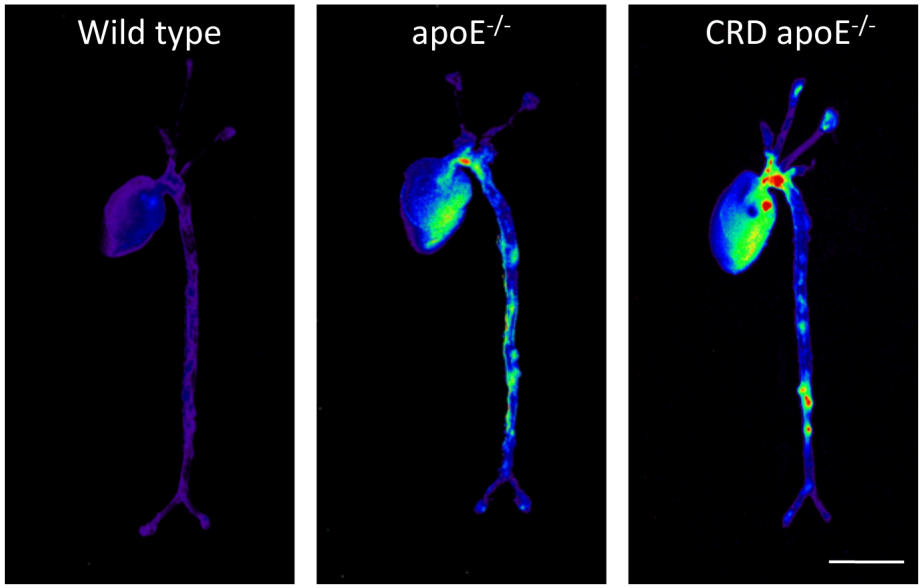
Supplemental Figure 4. Micro-CT showed no significant changes in bone volume fraction between three groups.

Supplemental Figure 5. (A) Carotid arteries (bar=50um) and (B) aortic valves (bar=100um) demonstrate increase in macrophage accumulation (mac-3 staining, brown-red reaction product) particularly in CRD apoE-/- mice. Note higher numbers of macrophages in the aortic valves and myocardium in CRD apoE-/- mice compared to apoE-/- and WT mice.

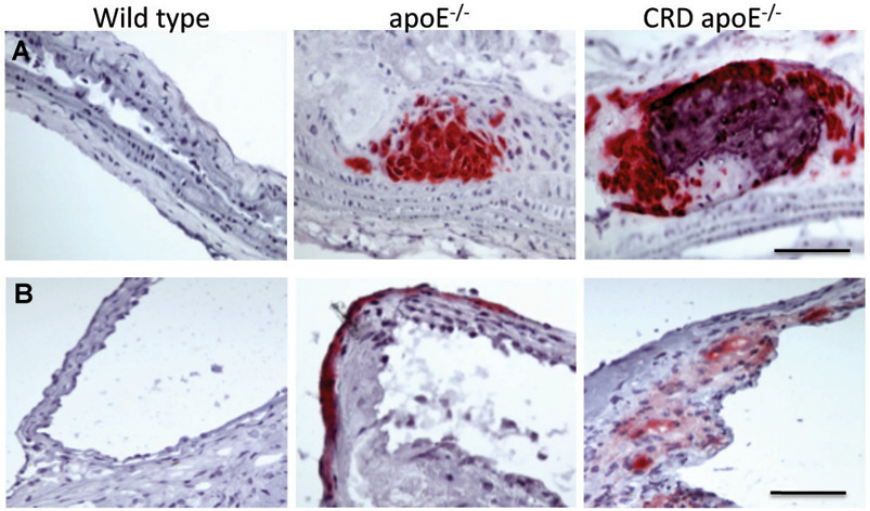
Suppl Figure 1



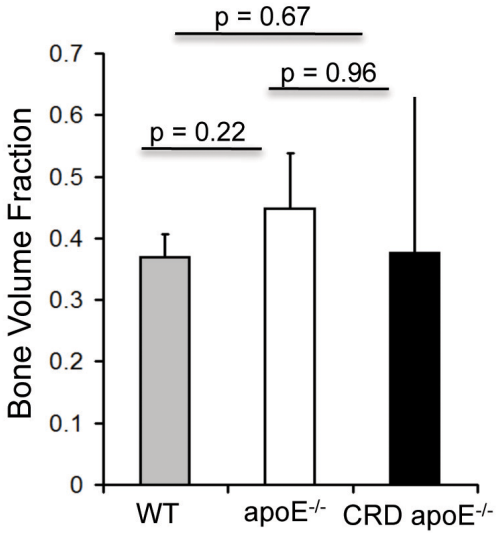
Suppl Figure 2



Suppl Figure 3



Suppl Figure 4



Suppl Figure 5