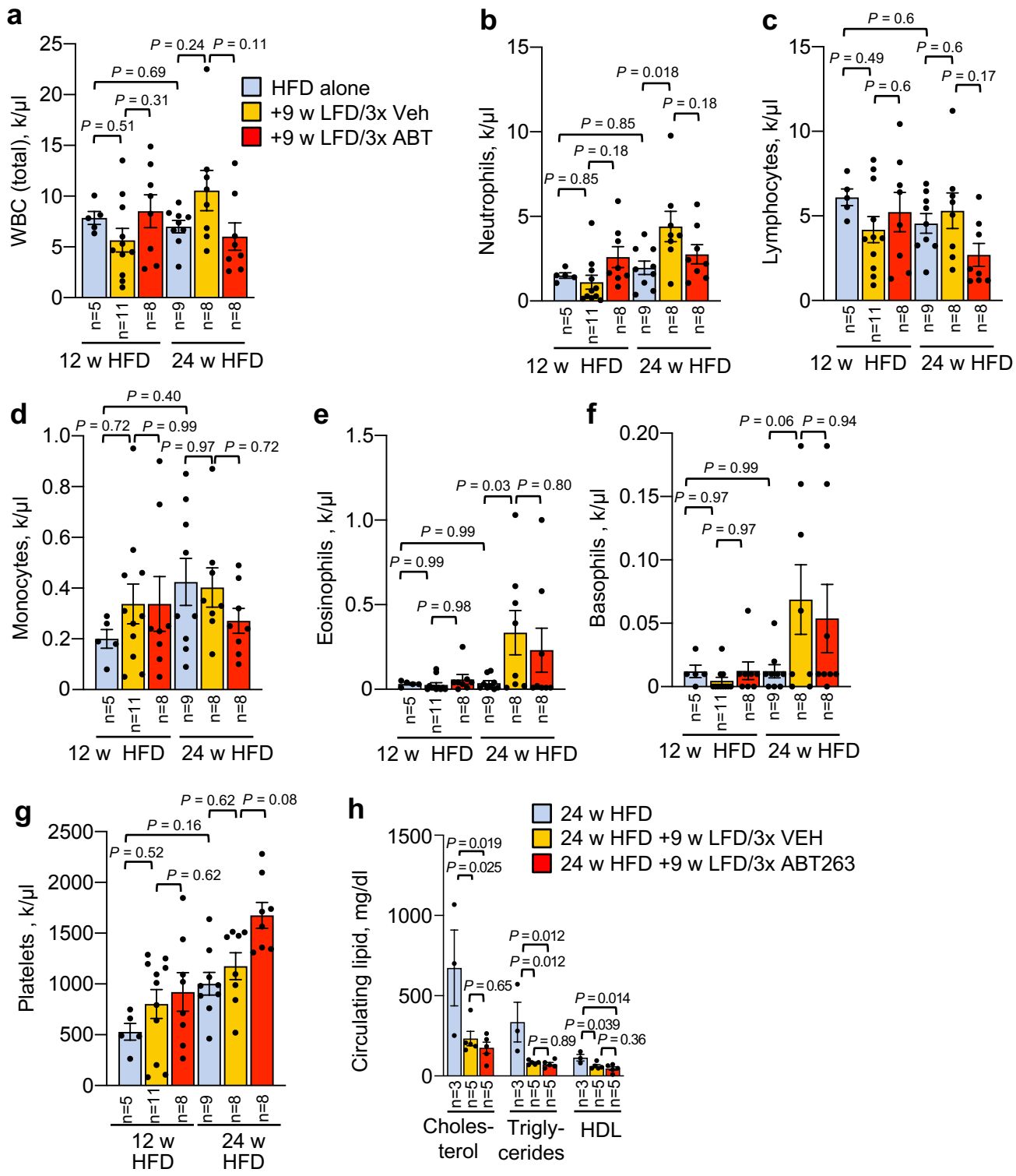
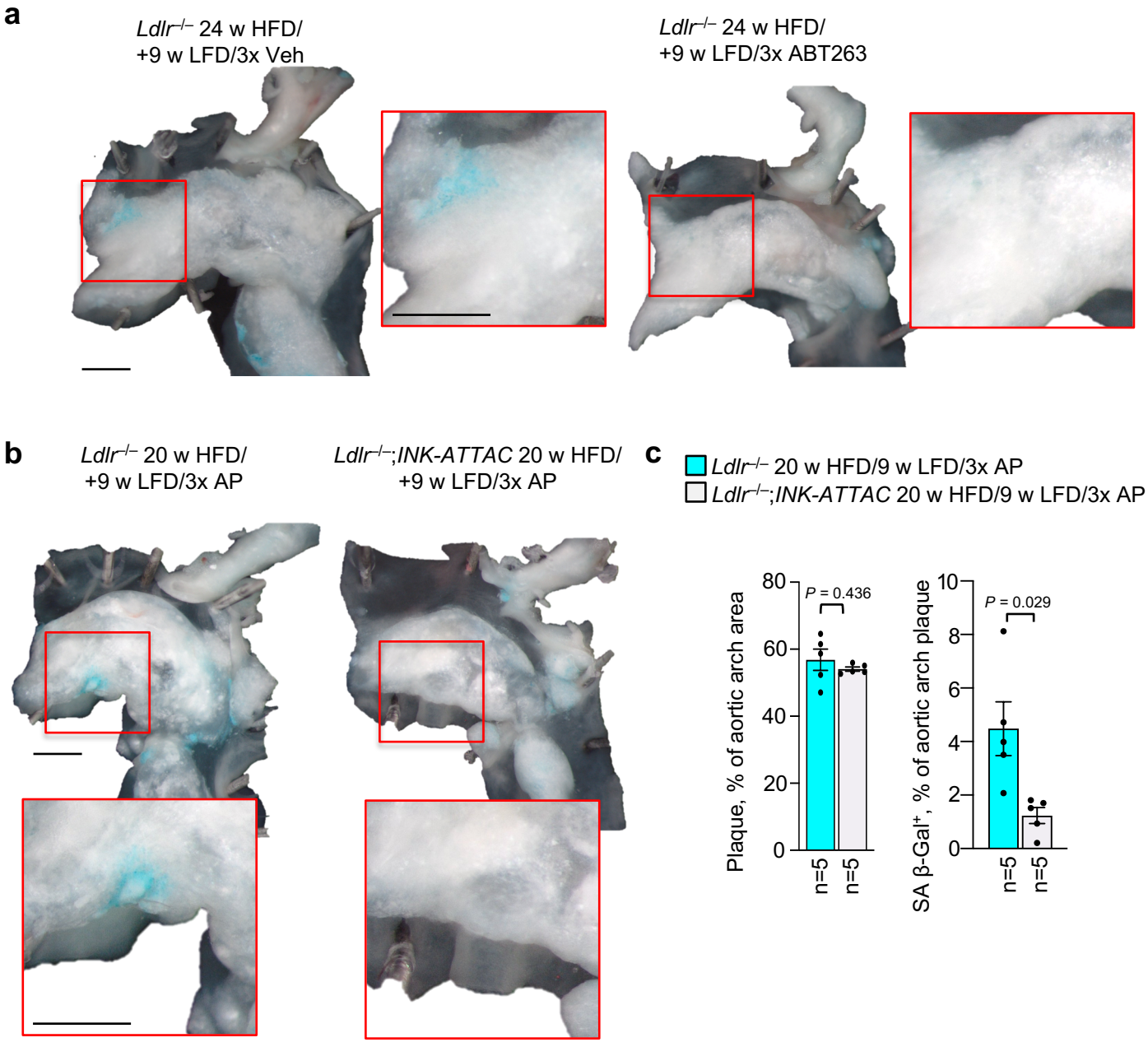
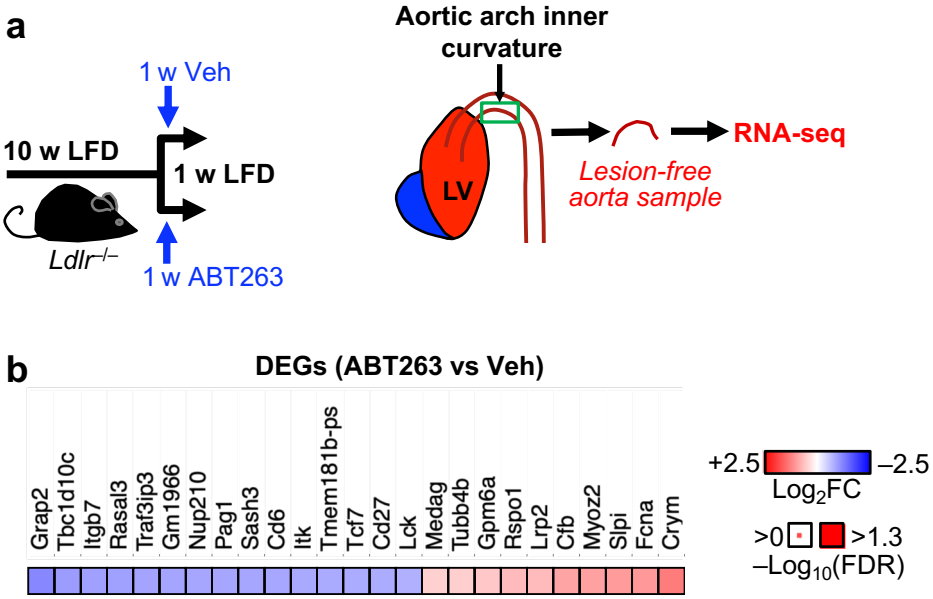


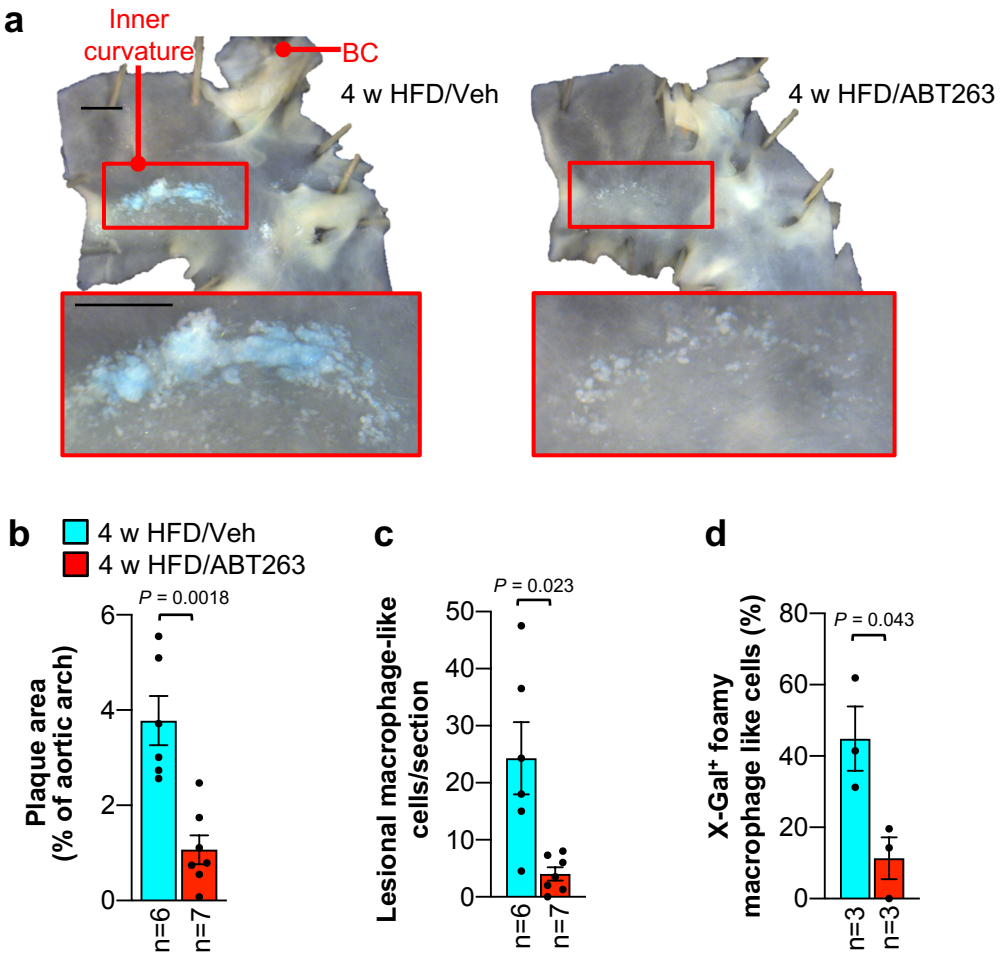
Supplementary Fig. 1: ABT263 does not alter circulating immune cell or lipid content in mice undergoing LFD-induced plaque remodeling. a-g, Quantification of indicated circulating cell type as determined by Hemavet automated blood analyzer for 3- or 6-month HFD mice switched to LFD for 9 weeks and simultaneously challenged with either ABT263 or Veh during LFD-feeding weeks 1, 4, and 7. **h**, Circulating lipid profile for mice in indicated groups as measured by HPLC. Error bars in all cases represent s.e.m. "n" refers in all panels to number of mice. Statistics in Panels **a-h** were performed by ordinary one-way ANOVA with Holm-Sidak multiple comparison correction for the indicated comparisons.



Supplementary Fig. 2: ABT263 or AP/INK-ATTAC deplete SNCs in highly advanced lesions.
a, Representative *en face* images of SA β-Gal stained aortas treated with ABT263 or vehicle from the indicated groups. **b**, Representative *en face* images of SA β-Gal stained aortas from *Ldlr*$^{-/-}$ or *Ldlr*$^{-/-}$;*ATTAC* mice treated with AP20187 from the indicated groups. **c**, (Left) Quantification of total *en face* lesion burden in aortic arch and (right) quantification of percentage of lesion surface area with SA β-Gal positivity in *Ldlr*$^{-/-}$ or *Ldlr*$^{-/-}$;*ATTAC* mice treated with AP20187 from the indicated groups. All panels were analyzed by unpaired, two-tailed *t*-test with Welch's correction. "n" refers in all panels to number of mice. Error bars represent s.e.m.



Supplementary Fig. 3: ABT263 does not induce transcriptional changes indicative of pro-migratory VSMC switching in atheroma-free healthy aortic arch tissue. a, Schematic of microdissection of non-atheromatous thoracic aorta from 12-week HFD-fed *Ldlr* $^{-/-}$ mice treated with 1-week ABT263 or Veh for RNA-seq profiling. **b,** DEGs upregulated and downregulated by ABT263 treatment from experiment in **a**.



Supplementary Fig. 4: Senolysis during early atherogenesis reduces X-Gal⁺ foam cell macrophage content. a, Representative SA β-Gal⁺ staining of aortic arch lesions produced by 4-weeks HFD feeding with concurrent administration of ABT263 or Veh on a 5-days on/2-days off regimen during HFD feeding. BC, brachiocephalic artery. **b**, Quantification of the percentage inner aortic arch coverage by fatty streak in mice of indicated groups. **c**, Quantification of the total number of foam cell macrophages in mice of indicated groups (legend as in **b**). **d,** Quantification of the percentage of macrophages with an X-Gal crystal as determined by TEM on mice of indicated groups (legend as in **b**). Statistics in panels **b-d** were performed by unpaired, two-tailed t-test with Welch's correction. "n" in all cases refers to number of individual mice. Error bars represent s.e.m. Scale bar in **b** (both main and inset) is 0.5 mm.