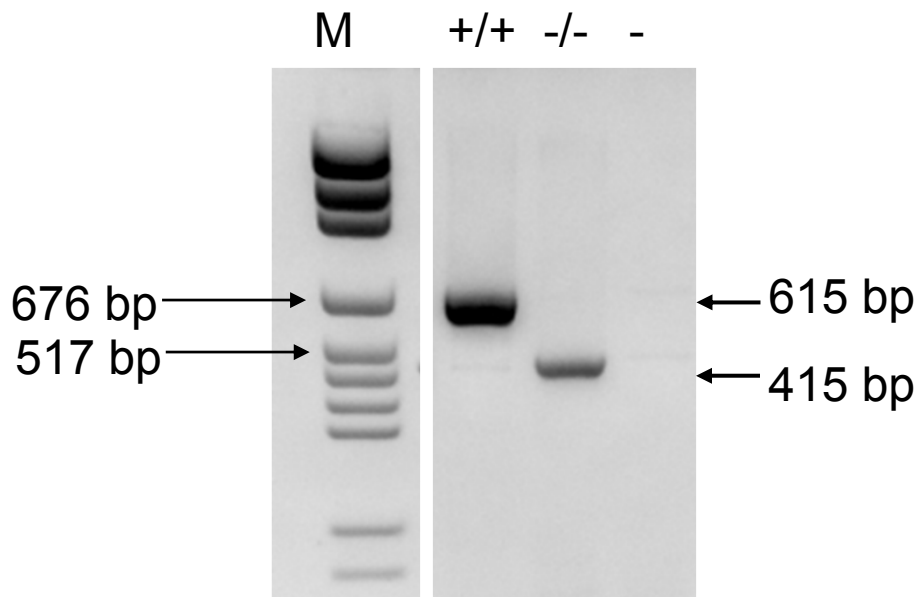


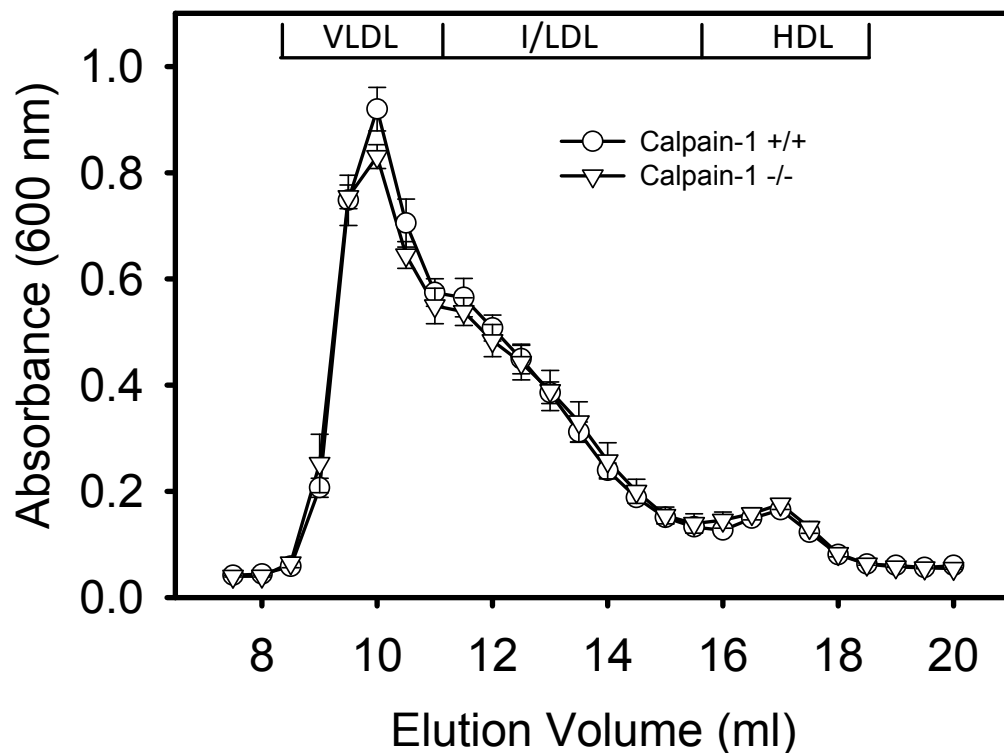
Figure S1

## Calpain-1 genotyping



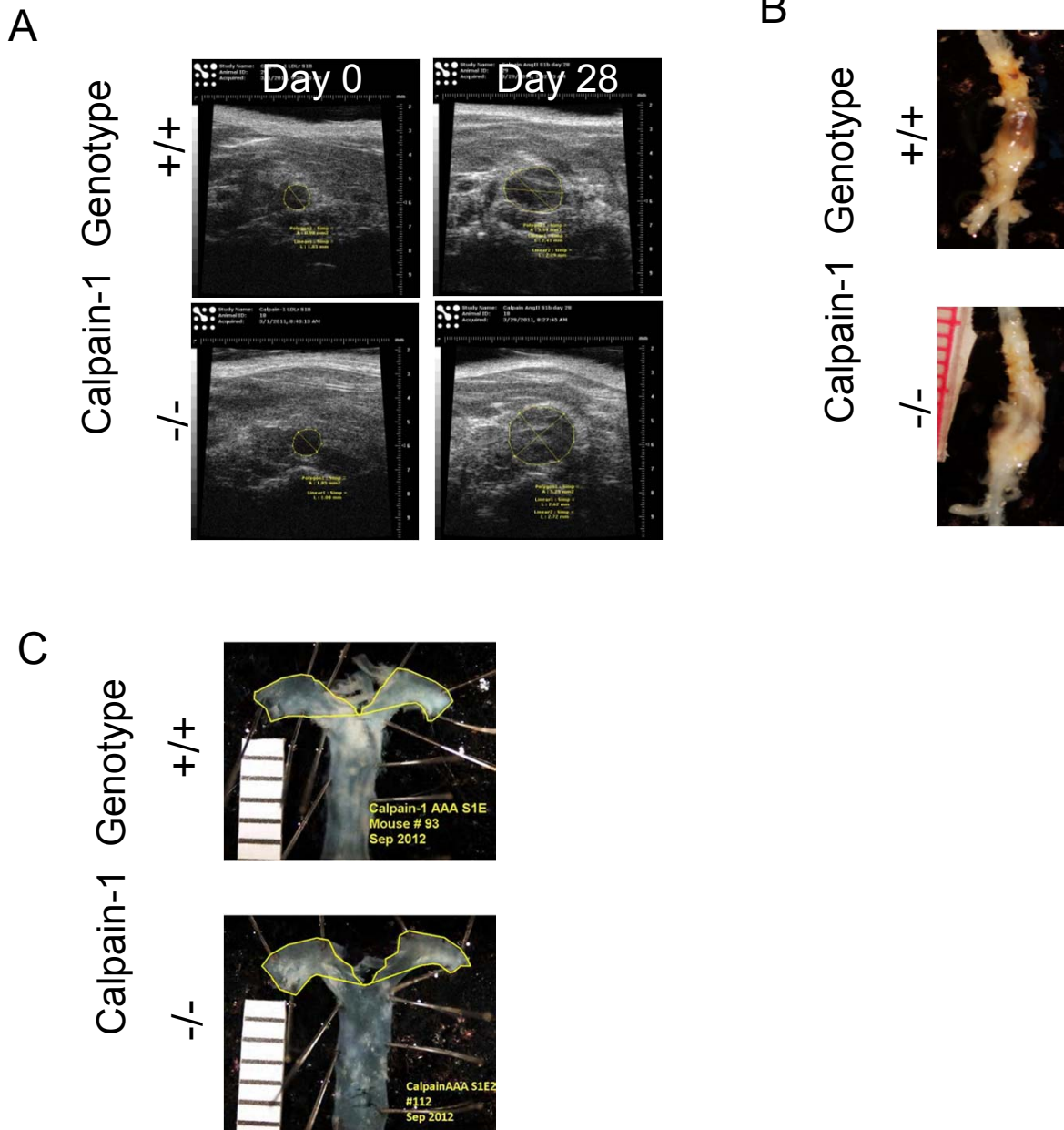
**Figure S1. Genotyping of experimental mice for calpain-1 alleles by PCR.** Genomic DNA from tail biopsies was isolated and screened by PCR for calpain-1 wild type (+/+) and null (-/-) alleles. Reaction products were sized using agarose gel electrophoresis.

Figure S2



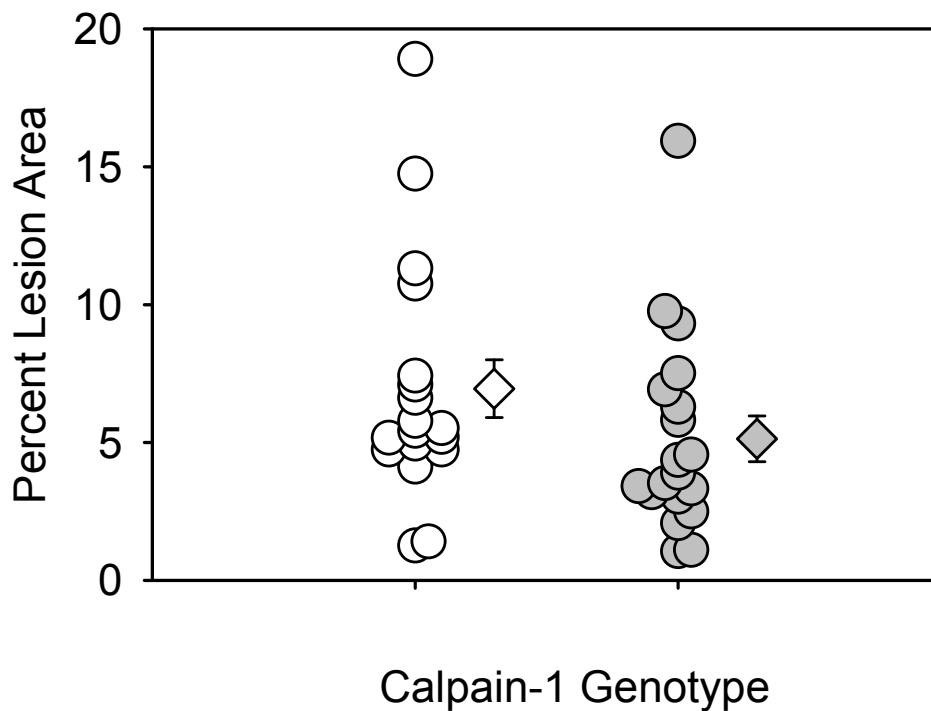
**Figure S2. Calpain-1 deficiency did not affect lipoprotein cholesterol distributions.** Lipoproteins were resolved by size-exclusion chromatography. Total cholesterol concentrations are expressed as mean absorbance per fraction. Symbols represent the means and bars are SEMs of 5 individual mice per group: Calpain-1 +/+ (circles) and calpain-1 -/- (triangles).

Figure S3



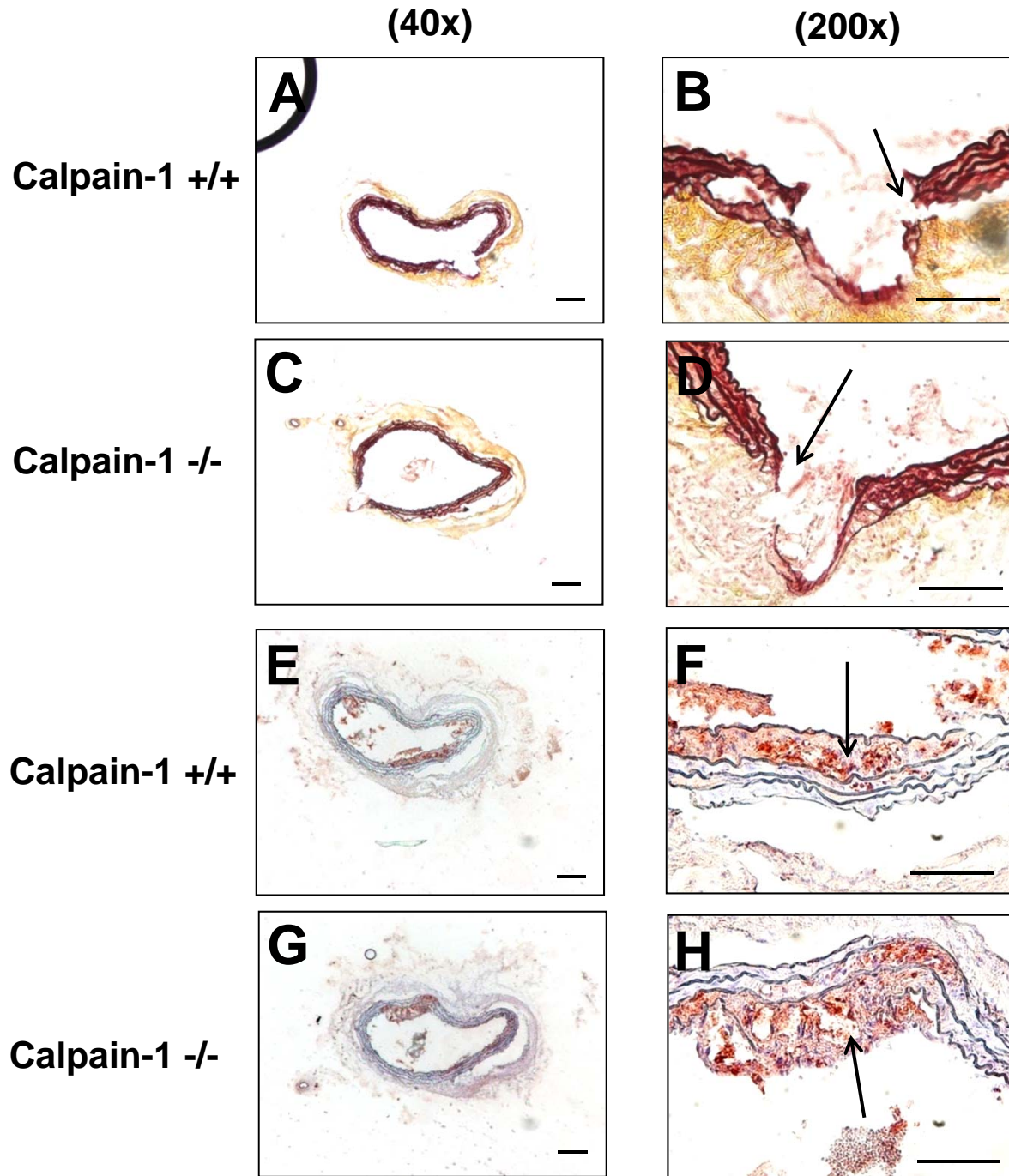
**Figure S3. Examples of vascular pathology measurements.** Ultrasound images (A - Day 0 and Day 28), ex vivo pictures of suprarenal aortas (B - after termination) and ascending arch aortas (C), that represent aortic diameters nearest the mean of each group.

Figure S4



**Figure S4. Calpain-1 deficiency had no effect on AngII-induced atherosclerosis in LDL receptor  $-/-$  mice.** Atherosclerotic lesion areas were measured on aortic arch intimal surfaces (n = 18-19). Open circles (calpain-1  $+/+$ ) and gray circles (calpain-1  $-/-$ ) represent individual mice, diamonds represent means, and bars are SEMs. Statistical analyses were performed with nonparametric Mann-Whitney Rank sum test.

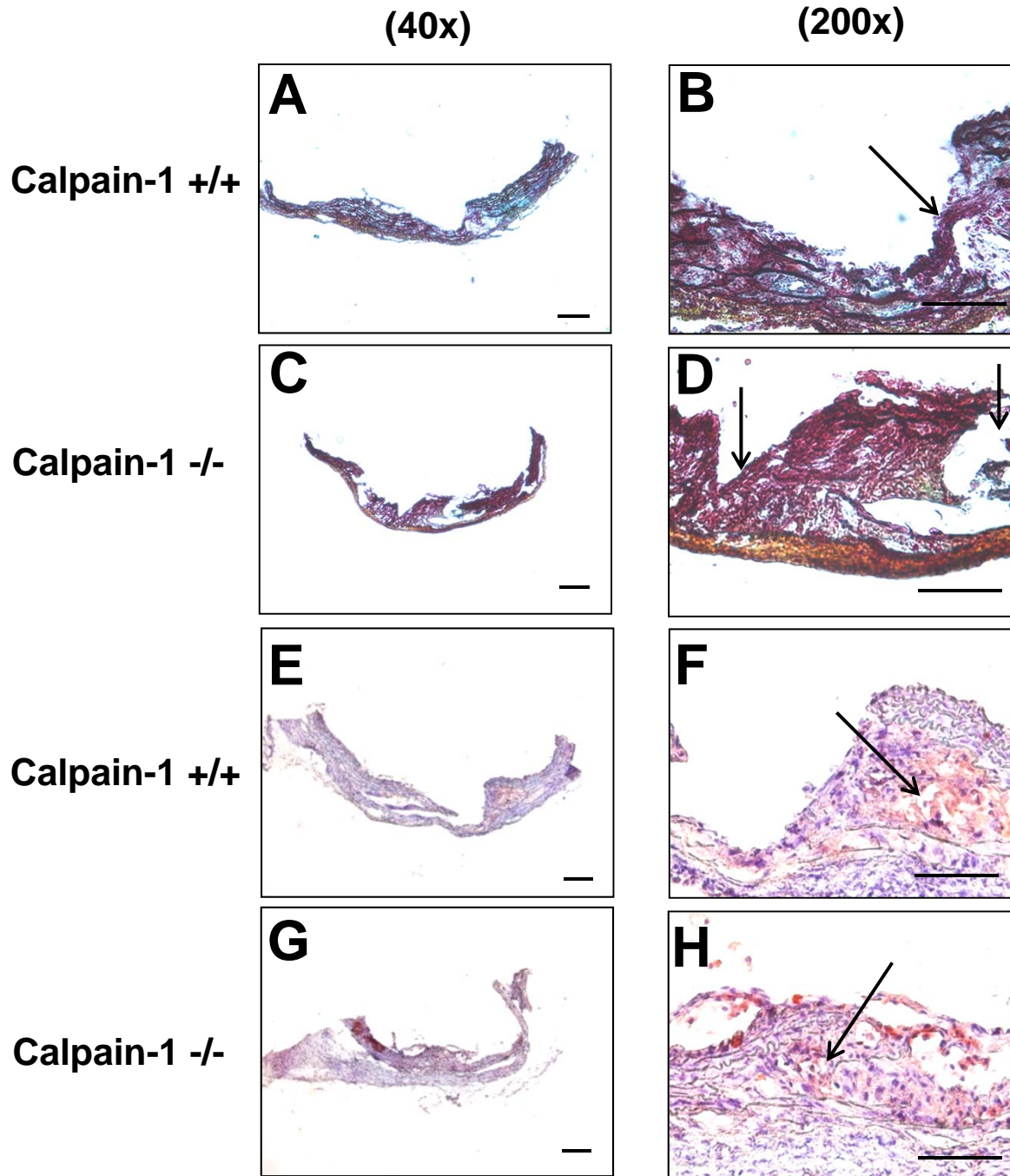
Figure S5



**Figure S5. Histological and cellular characteristics of AngII-induced abdominal AAs in calpain-1 +/+ and calpain-1 -/- mice.**

Representative suprarenal aortic tissue-sections from AngII infused calpain-1 +/+ and calpain-1 -/- mice stained with Movat's pentachrome (A-D) and immunostained for CD68 (E-H). Elastin stains black; CD68+ cells stain red. Scale bars corresponds to 50µm. Arrow indicates medial break and positive staining with CD68. A,C,E and G = 40x; B,D,F and H = 200x.

Figure S6



**Figure S6. Histological and cellular characteristics of AngII-induced ascending AAs in calpain-1 +/+ and calpain-1 -/- mice.**

Representative anterior ascending aortic tissue-sections from AngII infused calpain-1 +/+ and calpain-1 -/- mice stained with Movat's pentachrome (A-D) and immunostained for CD68 (E-H), Elastin stains black; CD68+ cells stain red. Scale bars corresponds to 50 $\mu$ m. Arrow indicates medial break and positive staining with CD68. A,C,E and G = 40x; B,D,F and H = 200x.