Supporting Information

S1 Fig: Sequencing chromatogram of CEL1-positive samples from *apoE*$^{+/-}$ rats. The 16-basepair deletion in the apoE gene is confirmed at the marked location (black arrow).

S2 Fig: NarI restriction enzyme digestion. 16-basepair deletions were confirmed in F2 homozygotes by the presence of 423- and 157-basepair DNA bands on 2% agarose gel. The wildtype lane showed 352- and 157-basepair bands. A third 87-basepair band was not visible on the gel. Data for rats used in Cohort 1 are shown.

S3 Fig: Western blot analysis of ApoE tissue expression. Lysates of spleen and lung from wildtype and *apoE*$^{-/-}$ rats were prepared, separated by SDS-PAGE, and probed with antibodies to detect ApoE expression. (**A**) Detection of 36 kDa protein in lysates from wildtype spleen (lane 2) and lung (lane 4) but not in *apoE*$^{-/-}$ spleen (lane 3) and lung (lane 5) samples. Protein ladder (1:50 dilution) is shown in kDa (lane 1). (**B**) Ponceau staining confirms equal transfer of total protein.

S4 Fig: Weight gain and growth of rats. Weights for Cohorts 1 (top) and 2 (bottom) are presented as mean ± SD. The number of animals that had weights measured at the indicated time intervals are noted.

S5 Fig: Full serum lipid analysis. Cholesterol, triglycerides, high-density lipoprotein (HDL), and low-density lipoprotein (LDL) levels were assayed in the sera from wildtype (WT; n=3; age: 93.7±7.4 days) and *apoE*$^{-/-}$ (apoE KO; n=3; age: 40±0 days) rats. Cholesterol

and LDL were significantly elevated in *apoE*$^{-/-}$ rats and HDL had a borderline significant reduction (p=0.046). LDL/HDL ratio was also significantly increased. There was no statistically significant difference in triglyceride levels. *, p<0.05; **, p<0.001.

S6 Fig: Gross morphology and *en face* staining of aortas. Gross (**A**) and *en face* Sudan IV-stained (**B**) thoracic and abdominal aortas are shown for two animals fed normal chow. There is no appreciable accumulation of Sudan IV stain on the luminal surface, but some periadventitial lipid accumulation is highlighted. Aortas from HFD-fed animals (not shown) also had minimal staining. Scale: 5 mm.

S7 Fig: Histology of suprarenal and ascending aortas. Suprarenal aortas from rats in Cohorts 2a (**A**) and 3 (**B**) have similar elastin and collagen morphology and composition. Dashed line boxes mark the magnified view of each section shown to the right. Ascending aortas from older *apoE*$^{-/-}$ (**C**) and ~4-month old wildtype (**D**) rats fed regular chow and not infused with AngII. No atherosclerotic plaques are present in the *apoE*$^{-/-}$ rat tissue. H&E- (left), VVG- (middle), and MTC- (right). Scale bars: 500 μm (4X magnification) and 200 μm (10X magnification).

S1 Table: Summary of total serum cholesterol values, full serum lipid panel, blood pressure measurements, and measurements of mean cross-sectional area of the media.

S1 Movie. Representative three-dimensional rendering of the abdominal aorta from

a rat in Cohort 3 acquired at day 28. No focal enlargement or AAA is observed.