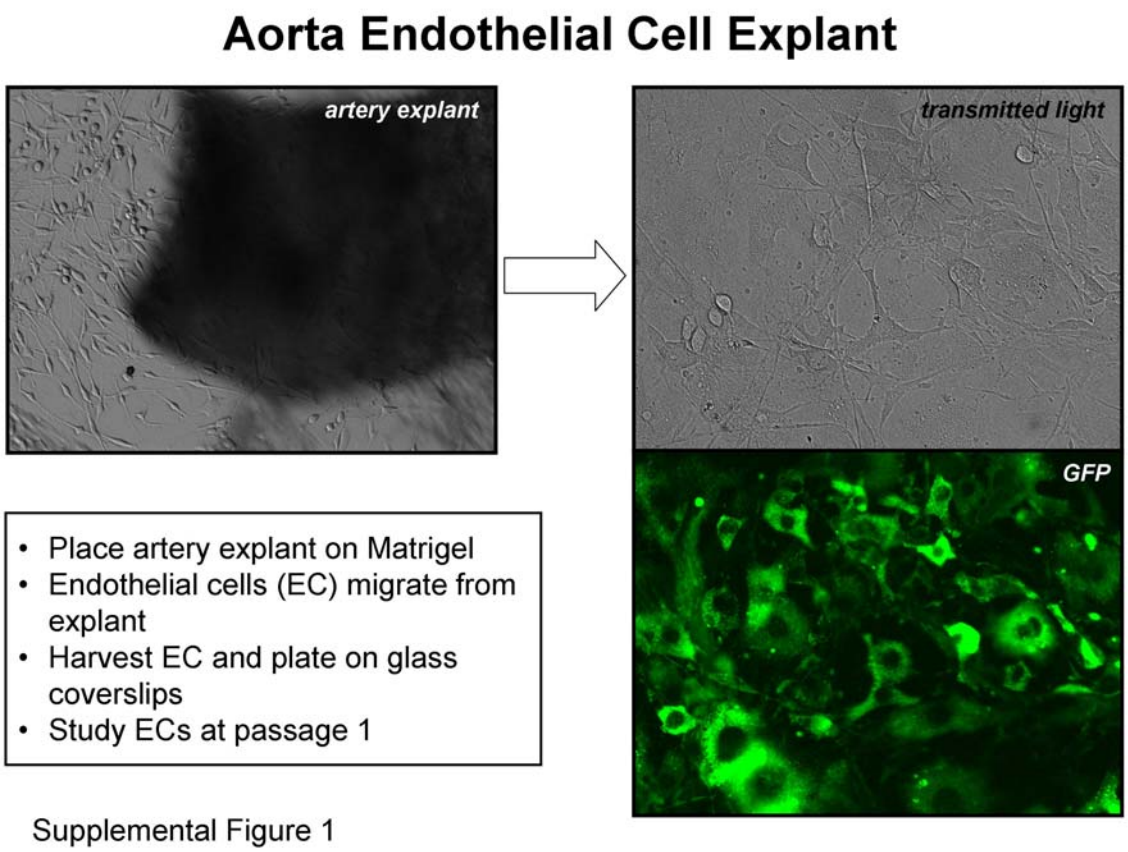
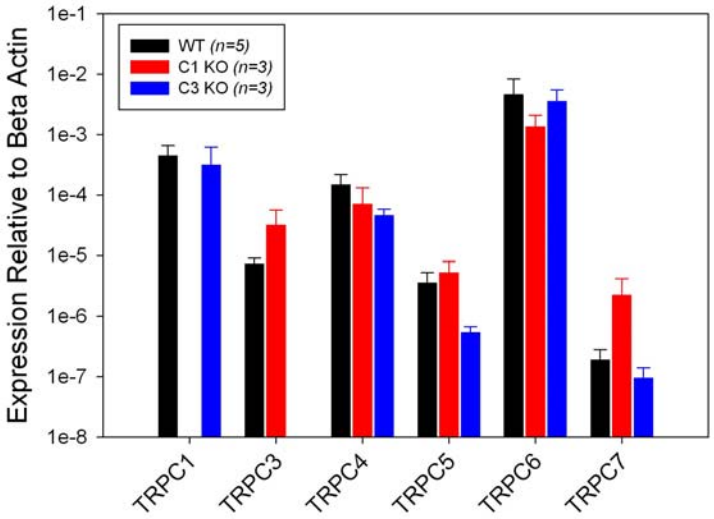
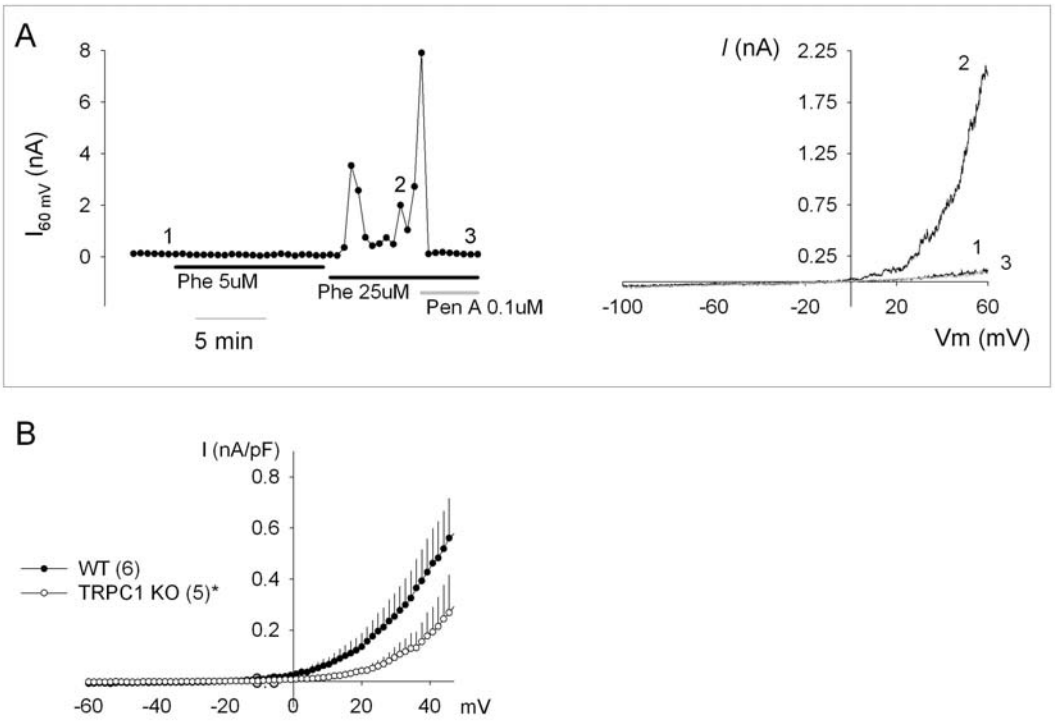


Suppl. Fig. 1. Aorta endothelial cell explant technique showing EC emerging from the artery explant (left) and then plated on glass coverslips at passage 1 (right). Pilot studies using Tie2-GFP mice (express GFP in endothelial cells) were performed to demonstrate the purity of the endothelial cells in the resulting culture.



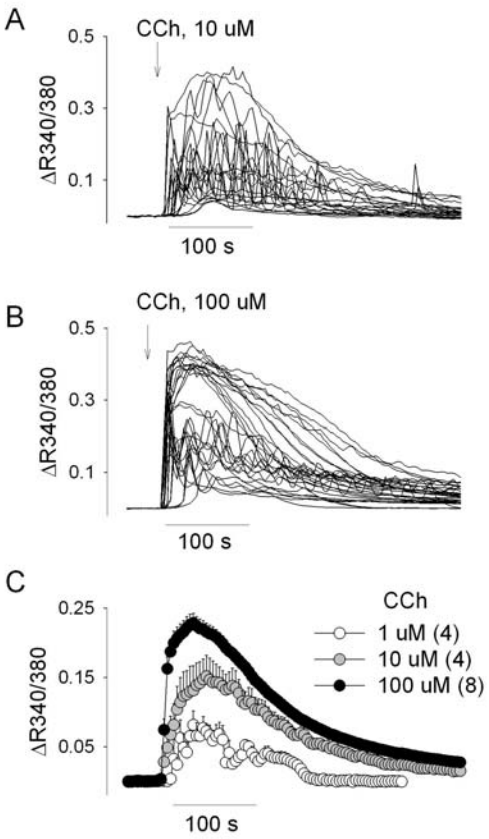
Supplemental Figure 2

Suppl. Fig. 2. TRPC channel mRNA expression phenotype in EC extracts from TRPC1 and TRPC3 KO mice, as shown by qRT-PCR. No expression of TRPC1 or TRPC3 mRNA was detected in the TRPC1$^{-/-}$ and TRPC3$^{-/-}$ mice, respectively.



Supplemental Figure 3

Suppl. Fig. 3. Phenylephrine (Phe) activated membrane current in aorta smooth muscle cells is sensitive to BK potassium channel blocker penitrem A. (A, left) Membrane current evoked by repeated 500 ms -100 to +60 mV depolarization ramps, measured at +60 mV. Phe and penitrem A (Pen A) were applied to the cells through bath perfusion as indicated by bars (A, right) Current-voltage traces corresponding to the time points marked 1, 2 and 3 in panel A, left. (B) Current-voltage relationship for peak Phe-activated membrane current in aortic SMC from WT and TRPC1 KO mice. * - P=0.025 as shown by two way repeated measures ANOVA.



Supplemental Figure 4

Suppl. Fig. 4. Concentration-dependence of CCh-mediated EC Ca responses. Responses were measured to 1 µM (not shown), 10 µM (panel A), and 100 µM CCh (panel B) and summarized in panel C. Each trace in panels A and B reflect the Ca response in a single EC. Note the heterogeneity of Ca responders which generally break down into steady responders and oscillatory responders.