Molecular Imaging of Matrix Metalloproteinase Activation to Predict Murine Aneurysm Expansion in vivo

Supplemental Figure Legends

Supplemental Figure 1. Representative immunofluorescent staining of the control right and $CaCl_2$-exposed left carotid arteries for endothelial cells (CD31), VSMCs (α-actin) and macrophages (F4/80) at 4 weeks after surgery demonstrating the presence of a large number of macrophages (arrows) in the aneurysm. Nuclei are detected by DAPI in blue. Scale bars: 100 μm for endothelial cell and VSMC, and 10 μm for macrophage panels.

Supplemental Figure 2. Representative examples of MMP-7 and MMP-12 immunofluorescent staining (in red) of aneurismal carotid arteries at 4 weeks. Nuclei are detected by DAPI in blue. Scale bar: 50 μm.

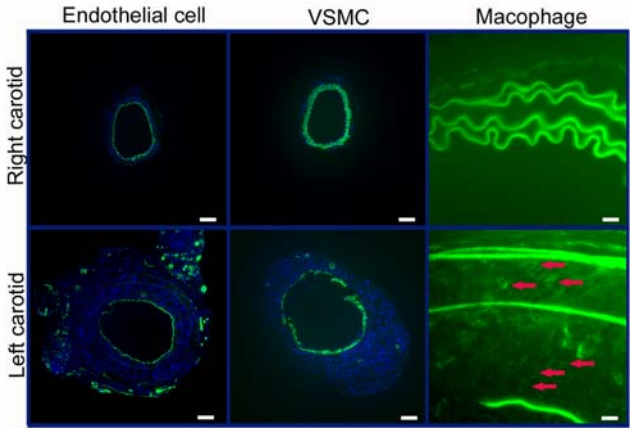
Supplemental Figure 3. GAPDH-normalized relative MMP mRNA expression detected by RT-PCR in control right and aneurysmal left carotid artery at 2, 4 and 8 weeks (wk) after $CaCl_2$ application. n=5-7, * $p<0.05$, ** $p<0.01$, *** $p<0.001$.

Supplemental Figure 4. Examples of carotid artery and aortic arch RP782 autoradiography, in the absence (left) or presence (right) of pretreatment with 50-

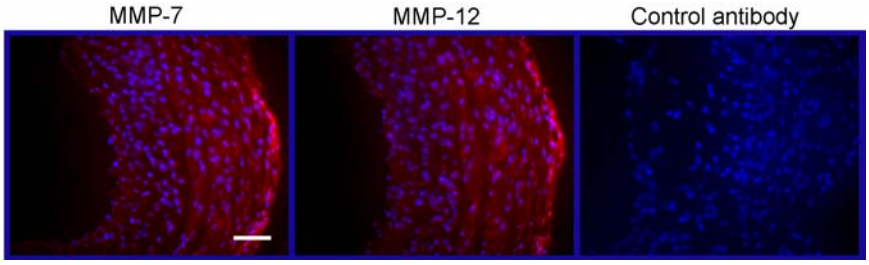
fold excess non-labeled precursor at 4 weeks, demonstrating tracer uptake specificity. The figure is representative of three sets of mice. Scale bar: 4 mm.

Supplemental Figure 5. Ex vivo RP782 binding to aneurysmal carotids in the absence or presence of a broad-spectrum MMP inhibitor, 1,10-phenanthroline, quantified by gamma-well counting. n=6, * $p<0.05$.

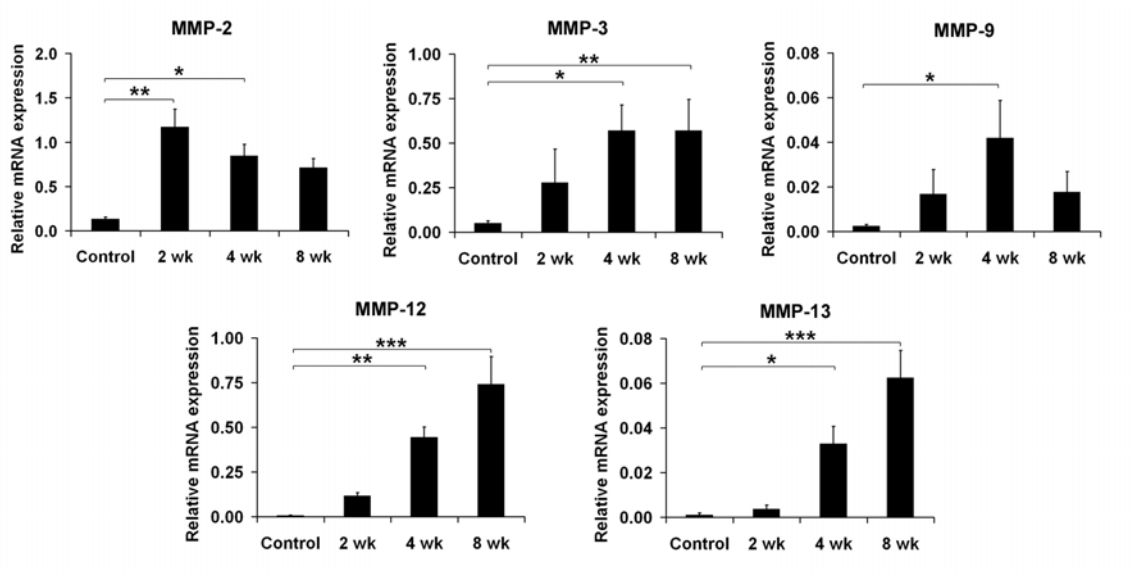
Supplemental Figure 1



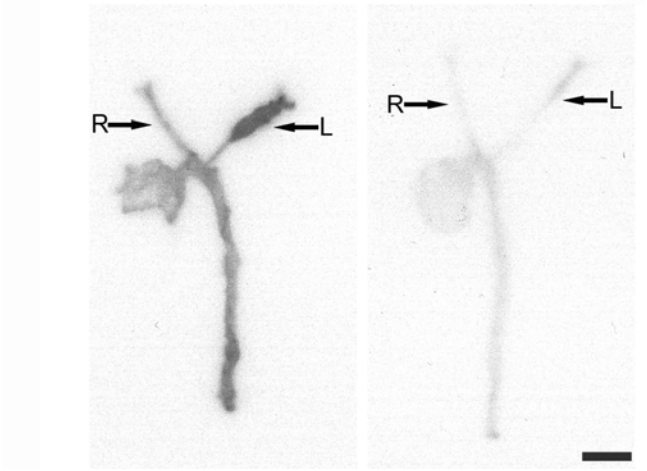
Supplemental Figure 2



Supplemental Figure 3



Supplemental Figure 4



Supplemental Figure 5