Supplemental Information

Figure S1. **Time profile of monokine secretion.** Secreted IL-6 (left) and MCP-1 (right) concentrations were measured after 4 h culture of aortic explants from sham- (n=6) or Ang II-infused mice after 6 d or 10 d (n=7 in each group). Data are presented as mean ± SEM. The differences in IL-6 for sham versus Ang-II at 6 days and at 10 days are significant at p<0.001. The differences in MCP-1 for sham versus Ang-II at 6 days and at 10 days are also significant at p<0.01. In neither case is the difference between 6 d and 10 d significant. Data were analysed using one-way analysis of variance (3 groups), followed by a Tukey’s HSD post-hoc test for significance.

Figure S2. **Time profile of aortic digestion.** Dissected aortae were subjected to collagenase- elastase digestion for the indicated times (Methods). At each time point, the weight of undigested tissue and dissociated cells was determined and plotted. Greater than 50 % digestion is seen within 1 h of collagenase incubation.

Figure S3. **β-actin staining in undigested tissue.** Dissected aortae were subjected to collagenase- elastase digestion for the indicated times (Methods). At each time point, undigested aortic tissue was extracted in SDS-PAGE buffer, sonicated, and fractionated by SDS-PAGE for Western immunoblot analysis. Top panel, Western immunoblot showing specific β-actin signal. Bottom panel, quantification of results.

Figure S4. **Viability of CD14⁺ cell population.** Collagenase-dissociated cells from unstimulated aortae (digested for 2 h, room temperature) were incubated with 8 µM ethidium homodimer solution in PBS for 15-20 min at room temperature. The cells were washed, and subjected to flow cytometric analysis. Left panel, gate containing CD14⁺ cells are indicated by the circle in the SSC-A vs FSC-H dot blot. Right panel, measurement of cell viability. X axis, ethidium bromide staining intensity (emission at 585 nm). Y axis, number of cell events. 13 % of the cells in this gate were positive for ethidium staining (nonviable); 87 % were negative (viable).
**Figure S5.** Enlarged Figure 1B.

**Figure S6.** **CCR2 Ab staining specificity.** Immunohistochemical staining of anti-CCR2 Ab in Ang II-treated WT and CCR2<sup>-/-</sup> mice. CCR2 staining is red. Autofluorescence from elastin lamella is green. Secondary antibody (2<sup>nd</sup> only) is negative control. Note the specific red staining only in the Ang II stimulated WT sections.

**Figure S7.** Enlarged Figure 3D.
Figure S1
Figure S2.
Figure S3.

Undigested Tissue

β-actin

β-actin in undigested aortic tissue

% β-actin (X10^3)

0hr 0.5hr 1hr 2hr 3hr

Digestion Duration
Figure S4.
Figure S5.

B

Sham  Ang II  Ang II-induced Aortic Dissection

[Images of sham, Ang II, and Ang II-induced aortic dissection]
Figure S6.

091109 CCR2 staining - WT vs CCR2-/-

All WT

All WT
2nd only

CCR2-/-
Figure S7.

D

CCR2^{+/-} monocytes injected

Sham

Ang II