

Supplemental Methods

Mice

All mice were kept in a light-controlled environment with a 12:12 hour light-dark cycle and free access to standard mice chow and water. The WT and MMP-9 null colonies were bred in-house and maintained in the same room.

WT and MMP-9 null mice were each divided into one of 5 groups, with at least n=3 male and 3 female mice in each group. The groups were day (d) 0 no MI naïve controls, MI with saline, MI with Aliskiren (A, 50mg/kg/d), MI with Valsartan (V, 40mg/kg/d), and MI with Aliskiren and Valsartan (A+V). The exact sample sizes were: for WT, saline was 24, A was 23, V was 28, and A+V was 26; for Null, saline was 15, A was 22, V was 21, and A+V was 23. All mice enrolled in the study were used for the survival analysis.

MI was induced by permanently ligating the left anterior descending coronary artery as previously described.¹ The mice were anesthetized with 1-2% isoflurane in a 100% oxygen mix, intubated, and ventilated with a standard rodent ventilator (Harvard Ventilator). At 3 h post-MI, MI was confirmed by echocardiography, and the drug treatments were initiated by inserting an osmotic pump in the subcutaneous space between the scapula (Alzet[®] Model 2004, Durect Corporation, Cupertino, CA). Groups were randomized, with one individual (JZ) allocating mice, before the surgeries were performed, to one of the treatment groups. All other individuals were blinded to treatment groups throughout the analyses. The MI mice were all sacrificed at 28 d after MI, and genotypes were confirmed by tail genotyping.

Blood Pressure Measurement

Blood pressure measurements were made by tail cuff plethysmography, as described previously.² To ensure accuracy and reproducibility, each mouse was trained for 3-5 days prior to the experiment. Conscious unanesthetized mice were placed on the specimen platform of the MC4000 Multi-Channel Blood Pressure Analysis System (Hatteras Instruments, Inc. Cary, NC 27514), and their tails were placed through tail cuffs and secured in place with tape. Following a 15 min warm-up period, 5 preliminary cycles were performed to allow the mice to adjust to the inflating cuff. For each mouse, 10 cycles were acquired and averaged. Measurements were taken at baseline and at 28 days post-MI.

Echocardiography

Transthoracic echocardiography was performed using the Vevo 770 system (VisualSonics) with a 30-MHz image transducer. Mice were anesthetized with 0.5-2% isoflurane in a 100% oxygen mix. Electrocardiogram, heart rate, and body temperature were monitored throughout the imaging procedure, and heart rates were maintained at a minimum of 400 bpm. Volume measurements were taken from the parasternal long axis B-mode view. For each parameter, 3 images from consecutive cardiac cycles were measured and averaged.^{2, 3} Because this study was not powered to detect differences between sexes, we normalized for potential effects due to differences in body size between sexes. To normalize, the individual mouse echocardiography volume data and hypertrophy index were normalized to the respective body weight, multiplied by 100, and averaged.

Tissue Collection

Mice were sacrificed at 28 days post-MI under 2% isoflurane in a 100% oxygen mix.⁴ A control group of no MI (day 0) control mice were also sacrificed for comparison of naïve hearts. To arrest the heart in diastole, the heart was flushed with cardioplegic solution.⁵ LV tissue was separated from the right ventricle, weighed, and cut into 3 transverse sections and stained with 2,3,5-triphenyltetrazolium chloride (Sigma) for infarct area measurements. In each LV sample, the infarct (LVI) and remote (LVC) regions were separated and individually snap frozen for mRNA analysis (qRT-PCR arrays) or immunoblotting. The mid LV section was fixed in zinc-formalin for histology.⁶ The tibia was measured for normalization of LV mass.

Immunohistochemistry

Paraffin embedded samples were sectioned at 5 μ m. One set of sections was stained with picosirius red by incubating the slides in 0.05% Direct Red 80 (Sigma 365548, St. Louis, MO) in saturated picric acid for 90 minutes and washing in 0.01 N hydrochloric acid. For each section, 5-6 random images of the infarct area were scanned at 40X magnification. The image analysis was done on images that were 23 by 15 cm in size and enlarged on a 22 x 14 inch monitor, which allowed us to see the areas of positive stain using Image-Pro Plus 7.0 (MediaCybernetics, Inc. Rockville, MD).⁴ A second set of sections was used for immunohistochemistry using a rat anti-Mac-3 antibody (Cedarlane CL8943AP, Burlington, NC) to stain for macrophages. Slides were incubated in primary antibody overnight followed by incubation in secondary antibody and substrate, using the

Vectastain Elite ABC Kit (Vector Laboratories, Burlingame, CA) and the HistoMark Black Kit (KPL, Gaithersburg, MD), according to product protocols. Macrophage numbers were counted using Image using Image-Pro Plus 7.0. The negative control was an isotype matched control antibody. Representative images were scanned at 60X magnification.

Real Time PCR

Inflammatory, ECM, and adhesion molecule genes were evaluated for mRNA levels using the Inflammatory Cytokines and Receptors and the Extracellular Matrix and Adhesion Molecules arrays (Qiagen PAMM-011A and PAMM-013A, Valencia, CA). LV infarct (LVI) and LV control (LVC) tissue were homogenized separately in TRIzol reagent (Invitrogen, 15596-026, Grand Island, NY) and RNA was extracted according to the manufacturer's protocol. cDNA synthesis was carried out using RT² First Strand Kit (Qiagen 330401) and prepared for loading the array with SYBR Green qPCR Mastermix (Qiagen 330522). Results were normalized to 5 housekeeping genes (Gusb, Hprt1, HSP90ab1, Gapdh, Actb) and analyzed based on $2^{-\Delta Ct}$ values. None of these housekeeping genes were different among the groups evaluated.

Plasma Analysis

Blood was collected from the carotid artery by injecting the mouse with heparin (4 USP units per gram body weight) 5 min before sacrifice. Plasma was isolated by centrifugation at 2100 x g for 5 min, and then snap frozen and stored at -80°C.⁷ Samples (100 µl) were sent to Rules Based Medicine (Austin, TX) for the Rodent Multi-Analyte profiling (MAP). 58 different plasma analytes were quantified by a Clinical Laboratory Improvement Amendments (CLIA)-certified biomarker testing laboratory using reproducible, quantitative, multiplexed immunoassays.

Statistical and Data Analysis

All results are reported as mean±SEM. Statistical analyses were performed using statistical software JMP (Cary, NC), SAS (Cary, NC), or Graphpad's InStat (La Jolla, CA). Survival probability was analyzed with three methods: nonparametric tests, Cox regression models, and parametric survival models.⁸ The nonparametric tests used include log-rank and Wilcoxon tests that test the equality of two or more survival distributions. The nonparametric estimate was based on the Kaplan-Meier product-limit estimate⁹. The parametric survival model based on the best-fit probability distribution was used to estimate survival probability

curves and to test hypotheses concerning the effect of covariates on survival curve. Several parametric models were analyzed.¹⁰ The appropriateness of the distribution was checked using three criteria: a lowest corrected Akaike information criterion value, linearity of distribution plot, and residuals.¹¹ The Shapiro-Wilk test was used to test the echocardiographic data for normality, and the Bartlett and Kendall, O'Brien, Brown and Forsythe, and Levene tests were used to test residuals for equal variance and interaction factors.

A sparse singular value decomposition (SSVD) biclustering algorithm was applied to divide the gene levels in this study into sub-matrices¹⁴. Data matrices were categorized into sub-matrices consisting of cluster members (genes or proteins) and the cluster attributes (experimental conditions or phenotypes) that have high similarity scores according to the biclustering algorithm.¹² This algorithm used a measure of coherent relation of a cluster member and its attributes at the same time¹³. Several layers of the original data matrix were analyzed using SSVD under appropriate sparsity conditions. The sparsity conditions pushed the unimportant entries of the data matrix towards zero while keeping the decomposed matrix similar to the original one. The significant genes were then selected for each layer of the matrix.¹⁴ The original data was approximated by a summation of the sub-matrices.¹⁴ Each sub-matrix represented a layer of the original matrix, with respect to its significance to the original data matrix. Each layer of the matrix was also decomposed by its singular values.¹⁵

All other statistical comparisons were done with ANOVA and a Student-Newman Keuls post-test. A $p < 0.05$ was considered significant.

Supplemental Table 1. ECM gene array results for WT remote (LVC) and infarct (LVI).

Gene	LVC									
	WT Day 0		WT Saline		WT Aliskiren		WT Valsartan		WT A+V	
	AVG	SEM	AVG	SEM	AVG	SEM	AVG	SEM	AVG	SEM
Adamts1	8.21	0.99	13.35	2.45	16.95	3.72	13.02	3.03	12.53	2.68
Adamts2	4.46	0.41	33.26*	6.34	22.81*	4.83	26.88*	4.25	27.13*	2.93
Adamts5	0.93	0.10	1.64*	0.11	1.96*	0.14	1.75*	0.17	1.82*	0.25
Adamts8	0.18	0.02	1.36	0.45	2.35	1.17	2.82	0.94	1.98	0.83
Ctnna1	83.14	3.48	84.61	9.41	84.04	9.95	86.87	17.79	74.42	8.72
Ctnna2	0.02	0.00	0.03	0.00	0.04	0.01	0.03	0.01	0.04	0.02
Ctnnb1	62.18	3.27	61.62	3.90	66.76	7.84	63.88	6.56	66.59	2.14
Cd44	2.49	0.10	6.89*	0.78	7.28*	0.89	6.95*	0.79	5.79*	0.49
Cdh1	0.02	0.00	0.04	0.01	0.04	0.01	0.06	0.01	0.08*	0.02
Cdh2	116.91	4.73	60.46*	7.97	61.86*	10.76	59.39*	7.35	49.80*	6.37
Cdh3	0.02	0.00	0.03	0.00	0.03	0.01	0.03	0.01	0.04	0.02
Cdh4	0.49	0.06	0.24*	0.02	0.24*	0.04	0.19*	0.02	0.23*	0.05
Cntn1	0.02	0.00	0.03	0.00	0.04	0.01	0.04	0.01	0.04	0.02
Col1a1	12.46	1.06	91.28*	13.37	54.12*	11.21	64.98*	11.70	73.32*	9.48
Col2a1	0.02	0.00	0.08	0.02	0.09	0.02	0.12	0.05	0.16*	0.04
Col3a1	43.21	3.41	317.19*	63.41	172.87	39.22	229.60*	55.73	259.91*	52.99
Col4a1	49.20	4.02	109.50*	5.29	109.45*	8.83	122.14*	7.55	110.06*	8.83
Col4a2	43.64	2.49	137.16*	21.38	112.32*	12.97	146.67*	33.84	105.38*	9.39
Col4a3	0.26	0.03	0.85*	0.05	0.86*	0.14	0.87*	0.15	0.88*	0.12
Col5a1	4.63	0.69	20.43*	2.19	15.49*	3.07	18.48*	2.52	19.27*	2.57
Col6a1	12.46	0.75	56.92*	14.48	31.18	4.20	42.12	9.15	34.17	4.16
Ctgf	34.56	2.76	211.83	39.95	172.08	43.89	271.36*	90.27	194.22	43.86
Ecm1	6.50	0.47	38.81*	10.48	36.05*	5.53	35.46*	5.42	35.13*	3.91
Emilin1	3.57	0.12	16.19*	3.07	11.57*	1.66	11.62*	1.01	11.69*	1.02
Entpd1	2.54	0.19	3.86	0.63	5.57*	0.71	5.89*	0.84	5.70*	0.98
Fbln1	2.39	0.09	11.50*	1.83	7.76*	1.58	7.27*	0.42	9.41*	1.52
Fn1	4.60	0.21	32.62*	6.27	21.11*	4.72	26.35*	4.91	30.16*	4.12
Hapln1	0.02	0.00	0.04	0.01	0.09*	0.02	0.04 [‡]	0.01	0.04 [‡]	0.02
Hc	0.02	0.00	0.03	0.01	0.06	0.03	0.05	0.02	0.05	0.01
Icam1	3.17	0.12	4.51	0.33	4.35	0.62	5.23*	0.68	5.47*	0.50
Itga2	0.17	0.02	0.24	0.01	0.26	0.04	0.34	0.07	0.27	0.02
Itga3	1.01	0.06	1.01	0.07	1.24	0.12	1.15	0.10	1.14	0.07
Itga4	0.14	0.04	0.23	0.03	0.17	0.02	0.21	0.03	0.20	0.03
Itga5	4.92	0.30	8.51	1.08	12.18*	3.00	11.09	1.18	9.15	0.99
Itgae	0.06	0.02	0.14	0.03	0.14	0.04	0.16	0.05	0.18	0.03
Itgal	0.41	0.05	0.30	0.05	0.17*	0.04	0.27	0.05	0.21*	0.02
Itgam	1.29	0.05	2.24	0.32	2.90	0.51	3.25	0.84	3.06	0.40
Itgav	7.32	0.41	10.53	1.28	11.00	1.30	12.67	1.68	11.58	1.11
Itgax	0.17	0.02	0.49*	0.11	0.32	0.04	0.54*	0.10	0.44*	0.06
Itgb1	79.47	3.63	81.82	6.24	90.53	4.82	96.97	8.49	90.16	3.32
Itgb2	1.28	0.09	2.47	0.34	2.24	0.33	2.60	0.40	2.31	0.38

Itgb3	0.56	0.06	1.11	0.11	1.76*	0.33	1.75*	0.37	1.65*	0.35
Itgb4	0.09	0.04	0.09	0.01	0.09	0.01	0.13	0.02	0.10	0.00
Lama1	0.02	0.00	0.03	0.00	0.03	0.01	0.03	0.00	0.05	0.01
Lama2	8.91	0.57	10.68	0.89	8.77	0.92	10.26	2.21	9.50	1.49
Lama3	0.41	0.03	0.65	0.09	0.82	0.10	0.91	0.14	0.76	0.17
Lamb2	29.75	2.63	48.26*	5.19	38.76	2.68	43.87	5.17	40.99	2.75
Lamb3	1.24	0.11	0.67*	0.12	0.86*	0.13	0.76*	0.14	0.66*	0.06
Lamc1	15.71	0.48	24.57	2.70	21.00	2.51	22.70	2.20	21.78	2.16
Mmp10	0.02	0.00	0.03	0.00	0.03	0.01	0.03	0.00	0.04	0.02
Mmp11	0.08	0.02	0.08	0.01	0.07	0.01	0.08	0.01	0.08	0.01
Mmp12	0.02	0.00	0.03	0.00	0.04	0.01	0.03	0.00	0.04	0.02
Mmp13	0.20	0.02	0.13	0.03	0.14	0.04	0.10	0.03	0.13	0.03
Mmp14	2.23	0.21	5.05*	0.76	4.88*	0.79	5.52*	0.88	5.32*	0.46
Mmp15	16.72	0.64	11.23*	1.38	11.85*	1.86	9.33*	1.69	10.14*	1.04
Mmp1a	0.02	0.00	0.03	0.00	0.05	0.03	0.03	0.00	0.04	0.02
Mmp2	7.11	0.21	34.99	7.70	19.91	4.40	34.66	14.54	23.96	4.72
Mmp3	0.48	0.11	2.38*	0.41	3.57*	0.79	3.74*	0.80	2.79*	0.48
Mmp7	0.02	0.00	0.03	0.00	0.04	0.01	0.03	0.01	0.04	0.02
Mmp8	0.04	0.01	0.05	0.01	0.09	0.05	0.12	0.03	0.06	0.02
Mmp9	0.13	0.03	0.06*	0.01	0.05*	0.01	0.05*	0.01	0.05*	0.02
Ncam1	0.44	0.07	1.30*	0.16	1.37*	0.23	1.46*	0.26	1.28*	0.09
Ncam2	0.02	0.00	0.03	0.00	0.03	0.01	0.03	0.00	0.05	0.02
Pecam1	29.35	1.12	29.70	1.65	40.61	3.28	42.66	5.60	40.72	3.83
Postn	2.06	0.13	46.75*	12.10	25.91*	6.00	38.80*	6.32	43.69*	10.16
Sele	0.37	0.03	0.34	0.05	0.41	0.07	0.39	0.05	0.37	0.07
Sell	0.46	0.10	0.31	0.07	0.40	0.07	0.42	0.08	0.38	0.08
Selp	0.13	0.02	0.51*	0.08	0.76*	0.16	0.84*	0.15	0.71*	0.17
Sgce	1.87	0.15	4.20*	0.41	3.65*	0.29	3.89*	0.61	3.23*	0.61
Sparc	35.12	2.64	136.85*	22.21	111.85*	18.42	151.48*	27.15	134.22*	16.29
Spock1	0.02	0.00	0.03	0.00	0.03	0.01	0.03	0.00	0.04	0.02
Spp1	0.13	0.07	2.91	0.37	3.64	1.13	5.91*	1.78	4.09*	0.65
Syt1	0.02	0.00	0.03	0.00	0.04	0.01	0.03	0.00	0.04	0.02
Tgfb1	10.82	0.52	18.76*	1.78	20.60*	1.50	19.08*	2.21	21.13*	2.04
Thbs1	4.14	0.97	47.05*	8.08	45.55*	9.25	55.61*	12.89	56.41*	12.59
Thbs2	5.24	0.19	9.16	0.96	6.79	0.83	7.53	0.83	8.09	1.52
Thbs3	0.87	0.04	3.97*	0.43	2.89*	0.38	3.80*	0.33	3.53*	0.44
Timp1	0.02	0.00	0.05*	0.01	0.06*	0.01	0.04*	0.00	0.05*	0.01
Timp2	19.02	0.74	46.36*	4.71	39.05*	5.38	40.06*	4.90	40.76*	4.28
Timp3	15.53	1.67	30.91	4.41	32.62	4.82	39.19	9.54	35.72	4.70
Tnc	0.15	0.02	1.95*	0.34	2.17*	0.60	1.75*	0.32	2.92*	0.34
Vcam1	1.71	0.13	3.75	0.61	3.25	0.37	3.76	1.20	2.83	0.47
Vcan	1.98	0.21	7.45*	0.76	8.18*	0.81	8.11*	1.09	8.37*	1.11
Vtn	10.38	0.44	11.00	0.79	11.34	1.13	10.12	1.68	11.02	0.94

LVI

	WT Saline		WT Aliskiren		WT Valsartan		WT A+V	
	AVG	SEM	AVG	SEM	AVG	SEM	AVG	SEM
Adamts1	7.38	2.03	7.59	1.31	13.11	6.58	6.55	0.94
Adamts2	94.99	7.83	67.27	10.58	74.64	11.40	93.53	18.01
Adamts5	3.39	0.44	3.64	0.62	3.99	1.08	8.92	4.12
Adamts8	1.09	0.26	1.95	1.37	0.80	0.18	2.04	0.73
Ctnna1	86.66	9.17	79.38	11.35	72.62	7.77	68.09	12.64
Ctnna2	0.16	0.04	0.11	0.03	0.22	0.08	1.07	0.86
Ctnnb1	74.36	4.70	69.14	4.57	80.91	8.05	88.24	5.96
Cd44	11.09	1.45	10.08	0.93	8.21	1.35	7.38	0.78
Cdh1	0.40	0.21	0.18	0.04	0.23	0.08	1.20	0.85
Cdh2	59.47	5.42	52.28	5.07	64.15	8.67	61.66	8.59
Cdh3	0.15	0.04	0.11	0.03	0.22	0.08	1.07	0.86
Cdh4	0.20	0.04	0.14	0.02	0.27	0.07	1.07	0.86
Cntn1	0.15	0.04	0.11	0.03	0.23	0.08	1.07	0.86
Col1a1	400.80	67.64	314.65	67.60	298.15	56.45	492.76	126.53
Col2a1	1.09	0.42	0.89	0.40	0.89	0.22	2.26	0.95
Col3a1	461.33	72.18	315.27	149.44	379.07	83.43	415.35	88.27
Col4a1	118.95	18.42	124.93	6.53	109.67	11.88	89.85	12.75
Col4a2	134.39	20.26	146.28	14.58	129.50	23.48	104.18	20.47
Col4a3	1.00	0.23	0.81	0.18	1.10	0.22	1.74	0.75
Col5a1	32.68	5.31	32.77	4.90	34.62	5.57	30.54	5.17
Col6a1	91.14	18.91	76.81	8.13	65.46	16.70	58.19	8.21
Ctgf	682.58	140.72	503.72	113.64	538.43	115.84	617.86	149.81
Ecm1	65.23	13.07	59.56	5.95	40.53	7.29	47.60	10.09
Emilin1	29.83	3.10	25.47	2.12	22.67	3.63	27.57	6.19
Entpd1	4.53	1.24	4.33	0.52	10.87	5.87	7.61	2.41
Fbln1	30.15	4.64	27.04	4.48	23.33	3.93	34.46	7.71
Fn1	62.90	7.35	64.81	13.39	58.24	9.67	69.21	13.92
Hapln1	0.14	0.04	0.12	0.02	0.22	0.08	1.07	0.86
Hc	0.27	0.10	0.12	0.03	0.24	0.08	1.52	1.15
Icam1	8.59	0.83	7.48	0.84	7.49	1.25	7.87	0.91
Itga2	0.39	0.14	0.44	0.09	0.46	0.09	1.48	0.80
Itga3	1.86	0.53	1.28	0.09	1.92	0.47	3.13	1.15
Itga4	0.35	0.06	0.31	0.07	0.37	0.06	1.14	0.85
Itga5	12.72	0.70	12.12	1.87	16.52	1.66	15.04	2.82
Itgae	0.69	0.10	0.69	0.24	0.71	0.21	1.61	0.77
Itgal	0.36	0.08	0.42	0.10	0.55	0.12	1.65	0.76
Itgam	9.32	1.70	8.24	1.75	8.26	2.11	14.75	3.99
Itgav	42.73	8.97	27.41	5.59	40.11	11.73	61.50	15.91
Itgax	2.37	0.56	1.50	0.29	2.98	1.15	4.43	1.84
Itgb1	148.97	17.06	139.66	21.19	150.25	14.50	180.53	27.88
Itgb2	6.08	0.88	5.06	0.76	4.39	0.84	6.68	1.04
Itgb3	1.88	0.25	1.94	0.20	2.25	0.37	3.45	0.91

Itgb4	0.22	0.04	0.19	0.02	0.33	0.08	1.12	0.85
Lama1	0.14	0.04	0.11	0.03	0.22	0.08	1.07	0.86
Lama2	12.40	2.85	11.24	2.57	8.66	1.66	8.06	0.94
Lama3	0.70	0.10	0.83	0.18	0.67	0.09	1.66	0.76
Lamb2	66.17	6.58	67.63	6.98	69.07	13.87	102.35	15.09
Lamb3	0.58	0.11	0.67	0.13	0.74	0.14	1.47	0.79
Lamc1	19.18	5.70	19.96	3.13	16.99	4.05	13.82	2.49
Mmp10	0.15	0.04	0.11	0.03	0.22	0.08	1.07	0.86
Mmp11	0.16	0.04	0.15	0.03	0.26	0.07	1.07	0.86
Mmp12	0.18	0.03	0.11	0.03	0.22	0.08	1.07	0.86
Mmp13	0.24	0.05	0.19	0.04	0.28	0.06	1.09	0.86
Mmp14	12.78	2.18	10.44	1.86	13.88	2.58	16.36	2.78
Mmp15	5.23	0.93	6.23	1.27	5.51	0.99	5.99	1.03
Mmp1a	0.14	0.04	0.11	0.03	0.22	0.08	1.07	0.86
Mmp2	51.25	14.31	49.35	16.88	44.26	15.75	38.56	11.71
Mmp3	8.55	1.33	8.33	2.08	12.67	3.36	10.54	3.55
Mmp7	0.15	0.04	0.11	0.03	0.22	0.08	1.07	0.86
Mmp8	0.16	0.04	0.12	0.03	0.27	0.07	1.09	0.86
Mmp9	0.16	0.04	0.36	0.23	0.22	0.08	1.07	0.86
Ncam1	4.14	0.43	3.74	0.96	5.56	1.25	5.39	1.24
Ncam2	0.14	0.04	0.11	0.03	0.22	0.08	1.07	0.86
Pecam1	20.90	4.50	29.01	3.68	33.43	4.69	37.22	5.24
Postn	44.87	5.80	41.71	12.45	37.31	7.57	34.01	7.73
Sele	0.22	0.04	0.25	0.03	0.28	0.06	1.08	0.86
Sell	0.61	0.09	0.62	0.07	1.00	0.44	1.78	1.10
Selp	1.22	0.21	1.19	0.26	1.82	0.87	1.67	0.75
Sgce	5.78	0.94	5.39	1.02	5.04	1.03	6.71	0.99
Sparc	328.15	48.66	296.63	63.29	312.67	53.30	267.34	76.21
Spock1	0.15	0.04	0.11	0.03	0.22	0.08	1.07	0.86
Spp1	14.53	3.07	15.01	3.88	16.68	5.05	16.49	4.88
Syt1	0.14	0.04	0.11	0.03	0.22	0.08	1.07	0.86
Tgfb1	32.71	3.64	26.83	4.33	26.90	5.57	29.66	4.90
Thbs1	224.76	31.47	193.30	49.15	210.55	55.57	253.48	69.51
Thbs2	21.08	1.29	19.05	5.54	17.30	3.77	25.43	5.18
Thbs3	10.84	1.14	7.86	0.72	10.68	2.74	17.91	3.85
Timp1	0.16	0.04	0.12	0.02	0.23	0.08	1.07	0.86
Timp2	166.07	15.85	112.24	22.56	122.90	21.32	166.52	32.63
Timp3	76.95	6.76	58.39	7.86	59.65	6.30	63.89	10.41
Tnc	5.12	0.33	5.39	1.46	6.13	1.31	5.95	0.83
Vcam1	9.42	1.01	6.76	1.89	7.02	1.84	6.71	0.80
Vcan	11.69	0.47	10.56	0.90	10.49	1.48	10.79	1.37
Vtn	4.13	1.10	6.07	1.78	4.51	1.19	6.17	1.84

Values are reported as $2^{-\Delta\Delta CT}$ levels x 100. n=6/group. * p<0.05 vs. day 0; † p<0.05 vs. saline; ‡ p<0.05 vs. Aliskiren; § p<0.05 vs. Valsartan

Supplemental Table 2. ECM gene array results for MMP-9 null remote (LVC) and infarct (LVI).

Gene	LVC									
	Null Day 0		Null Saline		Null Aliskiren		Null Valsartan		Null A+V	
	AVG	SEM	AVG	SEM	AVG	SEM	AVG	SEM	AVG	SEM
Adamts1	8.00	1.10	12.27	1.52	9.37	2.50	10.34	1.38	11.94	2.04
Adamts2	6.08	0.55	27.57*	3.72	35.70*	10.91	31.11*	3.96	27.16*	4.18
Adamts5	1.24	0.16	2.16	0.21	2.37	0.51	2.05	0.24	2.06	0.15
Adamts8	0.15	0.02	0.97	0.24	3.26	2.23	1.63	0.64	1.55	0.32
Ctnna1	73.46	8.31	89.70	11.17	77.88	8.75	76.24	9.89	76.24	10.05
Ctnna2	0.02	0.00	0.04	0.01	0.05	0.01	0.06	0.02	0.04	0.01
Ctnnb1	57.76	1.83	67.84	3.96	70.50	6.18	66.33	5.60	64.19	4.79
Cd44	3.71	0.43	7.79*	0.94	7.32*	1.36	6.53	0.81	6.53	0.48
Cdh1	0.03	0.01	0.07	0.01	0.08	0.02	0.06	0.02	0.08	0.02
Cdh2	93.03	4.32	58.26*	2.91	56.34*	6.19	56.36*	7.71	50.70*	5.97
Cdh3	0.02	0.00	0.04	0.01	0.05	0.01	0.05	0.02	0.04	0.01
Cdh4	0.45	0.10	0.21*	0.04	0.21*	0.04	0.19*	0.05	0.18*	0.04
Cntn1	0.02	0.00	0.04	0.01	0.05	0.01	0.09	0.04	0.04	0.01
Col1a1	16.77	1.03	66.73	11.78	99.72*	27.08	85.99*	12.94	67.74	13.98
Col2a1	0.02	0.00	0.09	0.03	0.21	0.16	0.10	0.03	0.09	0.03
Col3a1	75.48	12.62	187.53	28.82	196.62	48.20	185.78	38.31	173.78	23.71
Col4a1	95.66	9.26	118.46	10.49	121.24	7.80	135.17	4.84	108.68	19.45
Col4a2	79.76	10.48	127.08	12.40	122.36	13.81	133.55	9.89	141.66*	17.25
Col4a3	0.31	0.04	0.68*	0.04	0.80*	0.12	0.68*	0.16	0.75*	0.08
Col5a1	7.41	0.67	15.61*	1.85	20.10*	4.07	19.14*	1.75	15.11*	1.97
Col6a1	16.79	2.28	38.60	4.53	41.68	8.99	40.73	9.02	37.85	6.67
Ctgf	38.09	2.84	132.75*	22.02	112.96	58.76	114.93	23.53	104.27	16.99
Ecm1	9.17	1.36	36.98*	8.57	35.74*	8.29	32.10*	4.94	33.62*	4.23
Emilin1	4.74	0.43	12.98	1.75	13.43	1.93	12.92	3.21	12.30	2.34
Entpd1	2.74	0.13	3.80	0.27	5.51	1.34	4.65	0.89	4.57	0.76
Fbln1	3.50	0.42	10.25	1.31	15.02*	4.76	10.99	2.19	9.07	1.67
Fn1	7.26	0.51	23.24*	3.10	24.87*	5.16	21.69*	3.56	20.02*	3.53
Hapln1	0.02	0.00	0.04	0.01	0.07	0.02	0.07	0.02	0.04	0.01
Hc	0.05	0.03	0.05	0.01	0.05	0.01	0.11	0.07	0.06	0.01
Icam1	4.02	0.23	5.97	0.48	5.78	1.09	5.26	0.46	5.46	0.80
Itga2	0.24	0.04	0.24	0.03	0.21	0.03	0.40	0.11	0.25	0.03
Itga3	1.05	0.06	1.18	0.08	1.34	0.21	1.43	0.24	1.06	0.07
Itga4	0.16	0.02	0.21	0.01	0.22	0.03	0.22	0.03	0.19	0.03
Itga5	5.66	0.34	9.29	0.69	10.25	1.23	13.72*	3.03	8.74	0.72
Itgae	0.18	0.04	0.19	0.03	0.32	0.10	0.29	0.06	0.20	0.04
Itgal	0.47	0.03	0.31	0.06	0.45	0.12	0.37	0.05	0.22	0.04
Itgam	1.57	0.06	3.33	0.30	4.48*	1.13	3.99*	0.46	3.17	0.48
Itgav	7.15	0.44	10.40	0.70	15.56*	2.53	12.71	2.18	11.46	1.74
Itgax	0.38	0.07	0.44	0.04	0.71	0.19	0.62	0.13	0.51	0.12
Itgb1	77.96	1.21	94.74	7.46	72.47	14.82	102.62	7.97	83.24	4.57
Itgb2	1.73	0.15	2.55	0.26	2.81	0.50	2.83	0.22	2.74	0.31
Itgb3	0.76	0.07	1.67*	0.19	1.80*	0.24	1.85*	0.29	1.86*	0.38
Itgb4	0.06	0.01	0.10	0.01	0.15*	0.03	0.11	0.02	0.12	0.01

Lama1	0.02	0.00	0.04	0.01	0.05	0.01	0.05	0.02	0.04	0.01
Lama2	7.71	0.53	8.22	0.89	7.25	1.47	6.58	0.91	8.23	1.21
Lama3	0.60	0.05	0.93	0.11	0.77	0.10	0.95	0.15	0.75	0.12
Lamb2	31.01	2.99	47.77	6.13	43.60	6.06	54.54	12.42	43.08	2.67
Lamb3	1.14	0.11	0.88	0.16	0.87	0.14	1.22	0.55	0.80	0.05
Lamc1	20.31	0.79	22.93	1.43	24.31	2.55	24.06	3.96	23.90	1.37
Mmp10	0.02	0.00	0.04	0.01	0.05	0.01	0.05	0.02	0.04	0.01
Mmp11	0.07	0.01	0.08	0.01	0.10	0.02	0.10	0.01	0.08	0.01
Mmp12	0.02	0.00	0.04	0.01	0.05	0.01	0.10	0.05	0.04	0.01
Mmp13	0.45	0.08	0.17*	0.02	0.15*	0.02	0.28	0.13	0.12*	0.02
Mmp14	3.94	0.22	5.80	0.58	7.80*	1.00	7.63*	1.09	6.37	1.12
Mmp15	21.35	0.92	10.48*	0.74	11.17*	1.39	13.65*	2.48	11.00*	0.63
Mmp1a	0.02	0.00	0.04	0.01	0.05	0.01	0.05	0.02	0.04	0.01
Mmp2	10.08	1.01	22.94*	3.05	22.43*	4.08	18.94*	0.94	20.91*	2.72
Mmp3	0.52	0.12	2.60*	0.42	4.07*	1.02	4.34*	0.94	3.25*	0.49
Mmp7	0.02	0.00	0.04	0.01	0.05	0.01	0.06	0.03	0.04	0.01
Mmp8	0.03	0.00	0.24	0.11	0.17	0.07	0.27	0.16	0.10	0.02
Ncam1	0.51	0.03	1.12	0.09	1.54*	0.36	1.37*	0.22	1.20	0.21
Ncam2	0.02	0.00	0.04	0.01	0.05	0.01	0.07	0.04	0.04	0.01
Pecam1	42.96	2.27	37.28	2.96	40.49	4.06	46.89	5.70	38.25	4.08
Postn	2.36	0.22	20.56*	3.59	20.06*	1.84	18.16*	3.51	19.39*	3.80
Sele	0.43	0.07	0.33	0.05	0.24	0.03	0.32	0.07	0.39	0.08
Sell	0.29	0.05	0.41	0.07	0.42	0.05	0.65	0.28	0.35	0.08
Selp	0.17	0.03	0.71	0.11	0.71	0.20	0.72	0.19	0.56	0.08
Sgce	2.50	0.56	3.39	0.25	4.24	0.76	3.61	0.81	3.84	0.37
Sparc	63.54	5.18	119.77*	15.52	134.51*	26.71	128.04*	8.65	110.51*	11.40
Spock1	0.02	0.00	0.04	0.01	0.05	0.01	0.05	0.02	0.04	0.01
Spp1	0.08	0.03	3.39	1.03	3.87	1.70	2.76	0.72	2.16	0.60
Syt1	0.02	0.00	0.04	0.01	0.05	0.01	0.05	0.02	0.04	0.01
Tgfb1	9.01	0.55	18.86*	1.69	17.88*	3.61	14.66	1.85	18.21*	1.93
Thbs1	6.77	1.04	35.34	7.04	58.22	23.84	31.76	5.70	28.52	4.75
Thbs2	5.69	0.19	7.39	0.94	8.45	2.45	6.57	0.95	7.08	0.83
Thbs3	1.25	0.13	3.75*	0.31	4.32*	0.94	3.66*	0.60	3.11*	0.35
Timp1	0.02	0.00	0.05	0.01	0.06	0.01	0.07*	0.02	0.04	0.01
Timp2	18.46	1.65	42.01	5.48	58.24*	15.15	42.54	6.79	40.96	6.00
Timp3	11.48	0.70	30.39*	2.91	24.84*	7.03	29.43*	5.35	30.74*	3.47
Tnc	0.65	0.10	2.58*	0.26	3.19*	0.47	3.41*	0.56	3.11*	0.53
Vcam1	2.13	0.25	3.53	0.35	3.65	0.79	2.97	0.67	3.43	0.64
Vcan	2.51	0.20	7.42*	0.95	8.65*	0.36	8.42*	1.13	7.27*	0.82
Vtn	14.73	0.52	11.93	0.97	10.15	1.20	11.57	0.82	11.65	1.40

	LVI							
	Null Saline		Null Aliskiren		Null Valsartan		Null A+V	
	AVG	SEM	AVG	SEM	AVG	SEM	AVG	SEM
Adamts1	9.71	2.29	8.72	0.72	9.14	2.95	8.13	1.79
Adamts2	84.33	13.13	77.43	21.40	80.44	27.51	84.35	14.00
Adamts5	6.58	1.09	5.46	2.28	4.51	1.16	5.39	1.33
Adamts8	10.60	9.94	0.93	0.34	3.91	1.84	0.80	0.14
Ctnna1	76.21	11.05	74.94	14.77	69.03	10.62	79.66	13.59
Ctnna2	0.51	0.17	0.49	0.36	0.43	0.20	0.33	0.13
Ctnnb1	80.52	6.16	75.51	7.36	61.32	10.39	80.76	6.30
Cd44	9.89	1.94	8.13	1.84	6.36	1.24	11.54	2.00
Cdh1	0.53	0.17	0.51	0.35	0.44	0.20	0.35	0.13
Cdh2	53.61	6.60	46.82	7.13	52.02	8.27	59.14	4.49
Cdh3	0.51	0.17	0.49	0.36	0.43	0.20	0.33	0.13
Cdh4	0.52	0.17	0.62	0.34	0.50	0.19	0.37	0.12
Cntn1	0.64	0.28	0.49	0.36	0.43	0.20	0.33	0.13
Col1a1	391.99	77.48	239.14	73.05	299.89	71.65	392.33	78.12
Col2a1	0.64	0.16	0.79	0.36	0.58	0.20	1.51	0.59
Col3a1	320.12	55.57	204.84	137.04	247.01	20.68	421.37	106.62
Col4a1	93.82	8.62	111.23	7.79	102.91	10.35	107.28	11.77
Col4a2	103.61	12.36	117.17	9.48	117.96	14.02	132.33	20.98
Col4a3	1.10	0.09	0.96	0.27	0.82	0.16	1.07	0.15
Col5a1	21.14	1.59	29.68	9.23	25.66	6.94	30.81	5.89
Col6a1	57.20	9.82	54.64	8.44	49.53	6.85	81.62	19.09
Ctgf	436.25	88.16	111.45	264.66	303.33	54.56	659.14	158.46
Ecm1	50.44	7.11	45.77	8.92	31.94	4.42	56.42	11.62
Emilin1	23.45	3.68	17.51	4.45	18.20	3.64	30.17	6.58
Entpd1	3.31	0.48	4.48	0.34	4.01	0.83	6.24	1.17
Fbln1	28.77	4.42	22.84	6.52	19.42	3.69	25.41	3.33
Fn1	41.85	4.87	41.74	9.86	36.40	5.83	53.23	6.01
Hapln1	0.51	0.17	0.49	0.36	0.43	0.20	0.35	0.13
Hc	0.68	0.29	0.49	0.36	0.44	0.20	0.33	0.13
Icam1	8.57	1.72	6.90	1.44	5.64	1.01	9.00	1.92
Itga2	0.61	0.14	0.72	0.34	0.55	0.18	0.65	0.10
Itga3	1.84	0.37	1.43	0.21	1.99	0.44	2.13	0.31
Itga4	0.59	0.15	0.68	0.33	0.47	0.19	0.44	0.11
Itga5	11.59	1.76	14.22	5.02	14.50	2.66	15.13	2.56
Itgae	1.64	0.51	0.72	0.32	0.82	0.26	1.20	0.44
Itgal	0.65	0.18	0.85	0.30	0.67	0.17	0.80	0.17
Itgam	11.55	1.66	5.97	1.22	8.55	2.46	10.30	1.71
Itgav	42.36	6.79	23.12	5.20	37.93	9.95	37.28	7.19
Itgax	4.24	1.52	2.21	1.11	3.36	1.49	4.06	1.90
Itgb1	131.02	14.08	135.61	23.63	152.21	22.04	143.66	17.07
Itgb2	6.26	0.72	4.82	1.21	4.81	1.22	6.49	1.07
Itgb3	2.73	0.43	2.19	0.55	1.94	0.31	2.50	0.19
Itgb4	0.57	0.16	0.54	0.35	0.47	0.19	0.39	0.12
Lama1	0.51	0.17	0.49	0.36	0.43	0.20	0.33	0.13
Lama2	7.27	2.15	7.52	1.33	5.47	1.15	7.03	2.05

Lama3	1.03	0.26	1.14	0.28	1.18	0.39	0.68	0.12
Lamb2	77.90	7.45	86.39	24.29	86.12	24.19	80.42	13.00
Lamb3	1.49	0.60	1.38	0.50	1.10	0.24	0.92	0.27
Lamc1	12.53	2.25	19.63	5.07	13.62	2.09	14.80	3.80
Mmp10	0.51	0.17	0.49	0.36	0.43	0.20	0.33	0.13
Mmp11	0.52	0.17	0.55	0.35	0.44	0.20	0.36	0.13
Mmp12	0.67	0.29	0.51	0.36	0.44	0.20	0.34	0.13
Mmp13	0.88	0.48	0.56	0.34	0.56	0.19	0.46	0.12
Mmp14	15.84	2.69	10.95	2.31	14.79	4.31	15.22	2.57
Mmp15	6.65	0.87	7.11	1.92	9.18	1.32	4.98	0.89
Mmp1a	0.51	0.17	0.49	0.36	0.43	0.20	0.33	0.13
Mmp2	29.10	4.45	52.63	27.41	26.27	5.50	44.64	14.09
Mmp3	11.17	2.18	8.72	2.45	9.52	2.22	6.61	0.66
Mmp7	0.51	0.17	0.49	0.36	0.43	0.20	0.33	0.13
Mmp8	0.77	0.30	0.49	0.36	0.46	0.19	0.39	0.13
Ncam1	4.17	0.75	2.87	0.69	3.62	0.98	3.92	0.65
Ncam2	0.51	0.17	0.49	0.36	0.43	0.20	0.33	0.13
Pecam1	23.99	2.96	32.25	4.99	36.68	5.05	30.83	4.32
Postn	25.25	3.00	24.50	4.17	19.46	1.57	30.21	3.33
Sele	0.69	0.27	0.60	0.34	0.53	0.18	0.47	0.14
Sell	1.38	0.84	0.72	0.32	0.92	0.40	0.66	0.12
Selp	1.69	0.59	1.08	0.36	1.70	0.55	1.52	0.34
Sgce	3.90	0.59	3.81	0.46	3.50	0.50	4.41	0.58
Sparc	230.82	35.07	162.01	44.88	209.15	18.04	256.81	28.71
Spock1	0.51	0.17	0.49	0.36	0.43	0.20	0.33	0.13
Spp1	14.22	2.93	8.14	3.64	9.79	2.68	16.30	3.94
Syt1	0.51	0.17	0.49	0.36	0.43	0.20	0.33	0.13
Tgfb1	26.69	4.33	26.22	6.51	19.51	2.99	38.44	9.38
Thbs1	145.51	29.24	84.55	34.94	105.10	21.92	214.59	68.43
Thbs2	13.67	2.07	13.79	5.64	9.95	1.80	19.66	3.76
Thbs3	13.41	2.31	7.48	1.84	11.62	4.61	11.46	2.04
Timp1	0.52	0.17	0.50	0.36	0.43	0.20	0.33	0.13
Timp2	124.50	21.98	79.90	20.62	99.10	23.24	126.72	21.50
Timp3	61.78	9.16	40.94	7.74	44.23	9.11	59.06	5.82
Tnc	5.78	0.81	6.84	2.24	6.92	1.40	6.46	0.91
Vcam1	6.75	1.20	4.70	1.02	3.99	1.05	8.82	2.46
Vcan	13.54	2.47	9.39	0.97	10.37	1.32	10.63	0.95
Vtn	5.69	1.62	9.07	2.01	5.38	1.40	3.94	1.64

Values are reported as $2^{-\Delta CT}$ levels x 100. n=6/group. * p<0.05 vs. day 0.

Supplemental Table 3. Inflammatory gene array results for WT remote (LVC) and infarct (LVI).

Gene	LVC									
	WT Day 0		WT Saline		WT Aliskiren		WT Valsartan		WT A+V	
	AVG	SEM	AVG	SEM	AVG	SEM	AVG	SEM	AVG	SEM
Abcf1	219.59	8.83	267.69	41.57	263.75*	22.28	283.26*	25.90	363.20*	82.58
Bcl6	52.01	8.02	50.79	7.60	49.78	6.52	41.52	5.80	78.61	32.02
Cxcr5	0.66	0.10	1.03	0.22	0.95	0.06	0.83	0.29	1.36	0.42
C3	179.93	21.15	249.35	22.38	269.64	42.64	264.52	60.21	401.76	105.54
Casp1	12.00	0.91	20.56	3.36	18.99	1.90	22.36	2.48	30.15*	6.17
Ccl1	0.21	0.03	0.31	0.09	0.39	0.13	0.40	0.07	0.58	0.18
Ccl11	7.67	1.87	1.52*	0.89	2.28*	0.83	0.81*	0.22	1.42*	0.35
Ccl12	11.30	1.70	24.09	5.36	14.25	2.21	16.40	3.04	21.48	1.90
Ccl17	0.29	0.09	1.24	0.22	1.80	0.74	3.17	1.58	3.13	0.58
Ccl19	18.31	2.26	47.11	11.92	75.47	15.13	65.05	10.39	78.01	12.98
Ccl2	12.84	1.72	18.65	1.16	19.25	4.51	17.89	4.02	42.12	18.34
Ccl20	0.15	0.01	0.29	0.09	0.37	0.13	0.37	0.05	0.59	0.17
Ccl22	0.36	0.08	0.58	0.12	0.99	0.32	0.57	0.08	0.99	0.24
Ccl24	1.05	0.19	0.67	0.21	0.82	0.22	1.20	0.22	1.58	0.75
Ccl25	2.03	0.08	2.57	0.37	3.36	0.70	2.63	0.62	4.30	1.54
Ccl3	0.55	0.08	1.35	0.29	0.57	0.10	0.89	0.22	1.46	0.42
Ccl4	1.70	0.20	4.19*	0.55	1.75 [†]	0.26	2.78	0.57	4.10* [‡]	0.68
Ccl5	4.99	0.88	7.94	1.36	5.38	0.81	6.73	1.44	7.18	2.28
Ccl6	4.84	1.11	4.49	1.29	5.85	0.98	5.86	1.46	9.64	2.68
Ccl7	17.06	1.92	11.85	2.32	7.89*	2.09	9.56	1.54	13.13	2.11
Ccl8	5.16	0.69	17.86	4.60	19.40	5.30	15.66	3.49	24.33	5.80
Ccl9	7.23	0.67	16.74	3.21	22.96	5.53	21.95	4.65	26.51	6.60
Ccr1	4.16	0.33	7.03	1.29	6.56	1.05	6.41	1.26	9.39	2.14
Ccr2	5.23	0.60	9.98	2.13	8.11	1.78	9.18	1.52	11.55	1.46
Ccr3	7.87	0.92	12.14	1.61	11.38	2.08	9.27	1.90	16.57* [§]	1.61
Ccr4	0.26	0.03	0.74	0.24	1.75	1.27	0.83	0.16	1.35	0.41
Ccr5	7.80	0.69	17.09*	3.05	15.77	2.22	13.76*	2.23	25.18* ^{†§}	1.94
Ccr6	0.56	0.07	1.24	0.30	0.90	0.18	1.00	0.32	0.93	0.17
Ccr7	1.62	0.22	1.64	0.47	1.91	0.37	2.21	0.23	5.29	2.89
Ccr8	0.23	0.05	0.30	0.09	0.37	0.13	0.37	0.06	0.56	0.18
Ccr9	3.88	0.50	2.53	0.29	3.72	1.08	3.02	0.72	4.23	1.15
Crp	0.15	0.01	0.28	0.09	0.37	0.13	0.31	0.06	0.56	0.18
Cx3cl1	35.75	1.78	139.38	34.70	95.09	19.18	126.30	25.26	163.05*	41.97
Cxcl1	1.38	0.22	2.06	0.90	1.48	0.35	1.48	0.43	1.71	0.54
Cxcl10	2.91	0.71	7.76	2.79	2.75	0.93	7.56	1.74	4.28	0.87
Cxcl11	0.43	0.04	0.57	0.19	0.67	0.20	0.59	0.09	0.93	0.35
Cxcl12	429.50	39.59	284.64	43.88	376.00	32.97	346.95	47.14	553.24	157.35
Cxcl13	0.46	0.14	1.59	0.24	1.61	0.38	3.61	1.44	3.55	1.76
Cxcl15	0.15	0.01	0.28	0.09	0.37	0.13	0.33	0.05	0.56	0.18
Pf4	65.85	9.47	46.14	7.37	43.42	5.43	38.40	4.06	58.27	20.71
Cxcl5	2.20	0.55	1.56	0.43	0.88	0.17	0.65*	0.19	1.09	0.18
Cxcl9	26.73	6.29	11.91	2.47	7.35*	2.85	7.15*	1.57	14.75	7.13
Cxcr3	0.64	0.25	1.02	0.26	0.71	0.17	0.76	0.36	1.34	0.46

Ccr10	7.37	1.76	5.66	1.26	6.95	1.98	6.92	1.43	11.42	4.19
Ifng	0.16	0.02	0.33	0.09	0.42	0.12	0.47	0.13	0.56	0.18
Il10	0.70	0.13	0.76	0.13	1.00	0.27	1.12	0.24	1.58	0.80
Il10ra	4.70	0.48	8.23	1.35	7.02	0.73	9.13	1.04	11.67	4.80
Il10rb	350.01	9.72	300.28	21.87	290.94	21.06	293.55	31.28	425.91	105.68
Il11	0.22	0.05	0.87*	0.19	0.71	0.17	0.64	0.07	1.35*†‡§	0.18
Il13	0.15	0.01	0.29	0.09	0.47	0.12	0.44	0.08	0.88	0.43
Il13ra1	86.25	6.54	81.35	5.22	71.46	4.12	85.36	5.56	125.80	39.55
Il15	140.40	5.48	66.64*	9.27	95.80	16.28	67.77*	13.25	108.25	22.65
Il16	10.45	1.00	9.75	0.81	11.60	1.77	11.52	1.37	14.60	3.78
Il17b	0.15	0.01	0.30	0.09	0.40	0.12	0.38	0.03	0.64	0.20
Il18	1.86	0.04	3.77	0.76	3.50	0.38	3.75	0.75	6.50	2.36
Il1a	0.55	0.09	0.43	0.10	0.59	0.11	0.82	0.12	0.77	0.26
Il1b	3.73	0.64	4.17	1.35	2.67	0.61	4.36	1.63	6.88	3.58
Il1f6	0.16	0.02	0.35	0.11	0.38	0.13	0.48	0.12	0.61	0.17
Il1f8	0.16	0.01	0.30	0.09	0.48	0.18	0.46	0.12	0.63	0.17
Il1r1	20.45	1.45	42.33	5.42	47.30	7.72	60.32	10.35	68.55*	18.77
Il1r2	0.61	0.20	1.63	0.96	2.92	1.19	2.80	0.82	1.77	0.55
Il20	0.15	0.01	0.31	0.09	0.37	0.13	0.46	0.12	0.56	0.18
Il2rb	1.39	0.58	0.90	0.17	0.86	0.09	0.80	0.18	1.55	0.89
Il2rg	27.35	1.60	29.04	1.20	28.49	2.50	28.05	1.72	48.64	18.77
Il3	0.15	0.01	0.28	0.09	0.37	0.13	0.38	0.05	0.60	0.17
Il4	0.23	0.04	0.37	0.09	0.70	0.17	0.67	0.08	1.04	0.44
Il5ra	0.20	0.06	0.30	0.09	0.38	0.13	0.38	0.06	0.59	0.17
Il6ra	16.59	0.94	23.78	3.95	35.85	8.50	28.50	7.28	52.70	18.69
Il6st	417.74	70.50	388.96	32.56	362.58	20.47	401.47	52.40	521.92	143.40
Il8rb	1.21	0.49	0.37	0.11	0.76	0.51	0.57	0.07	0.57	0.18
Itgam	15.16	0.85	25.33	2.37	31.13	5.16	31.60	6.53	46.07*‡	9.66
Itgb2	12.79	0.50	24.80	3.97	24.09	4.49	22.39	4.27	28.99	8.07
Lta	0.17	0.01	0.28	0.09	0.40	0.12	0.33	0.05	0.67	0.26
Ltb	2.19	0.30	2.57	0.34	2.96	0.83	1.76	0.39	2.72	0.66
Mif	432.38	7.69	733.06	82.87	640.96	82.60	897.94	238.67	882.04	185.63
Scye1	348.02	12.64	333.79	29.78	314.80	21.58	328.58	43.89	402.52	91.23
Spp1	1.45	0.84	34.92	4.06	45.48*	11.71	67.50*	21.87	52.65*	8.44
Tgfb1	91.18	6.47	95.10	8.29	113.65	9.43	121.60	13.18	209.55	84.33
Tnf	1.36	0.22	1.61	0.38	0.96	0.20	1.16	0.30	2.28	0.81
Tnfrsf1a	34.07	1.36	46.50	4.86	44.10	4.60	63.30	15.70	70.64	19.97
Tnfrsf1b	14.54	0.87	29.70	3.06	29.85	3.81	26.93	2.99	45.54	15.23
Cd40lg	0.24	0.06	0.31	0.09	0.38	0.13	0.47	0.19	0.57	0.18
Tollip	78.67	3.48	72.90	5.68	73.30	3.25	76.73	5.92	106.54	36.50
Xcr1	0.24	0.06	0.44	0.13	0.40	0.13	3.43	2.82	0.93	0.37

	LVI							
	WT Saline		WT Aliskiren		WT Valsartan		WT A+V	
	AVG	SEM	AVG	SEM	AVG	SEM	AVG	SEM
Abcf1	325.04	38.68	245.33	44.68	298.70	40.88	345.51	41.01
Bcl6	117.45	16.96	107.27	25.80	105.46	26.89	125.62	29.50
Cxcr5	2.47	0.48	4.12	1.30	4.96	3.05	9.32	5.15
C3	1154.35	376.08	676.97	182.60	961.84	192.37	1056.22	232.81
Casp1	66.23	15.62	65.21	22.23	66.98	26.93	90.49	17.31
Ccl1	2.02	0.62	1.05	0.27	1.85	0.56	5.46	3.10
Ccl11	2.29	1.01	32.12	30.85	2.24	0.71	5.18	3.15
Ccl12	23.04	1.60	20.02	5.12	19.87	4.84	21.45	6.29
Ccl17	7.25	2.25	4.24	1.30	9.48	3.15	6.88	2.95
Ccl19	128.55	25.45	100.54	14.96	127.20	34.12	240.60	95.42
Ccl2	26.92	3.75	20.49	4.55	29.94	7.64	28.49	8.34
Ccl20	1.52	0.48	0.90	0.20	1.66	0.50	5.18	3.15
Ccl22	2.26	0.50	1.88	0.71	2.29	0.40	5.39	3.11
Ccl24	1.81	0.38	20.62	19.60	1.73	0.47	5.21	3.15
Ccl25	5.55	1.45	3.81	0.92	3.12	0.28	10.73 ^{†‡§}	2.96
Ccl3	2.93	0.23	43.63	40.23	2.70	0.37	10.16	5.70
Ccl4	18.62	3.65	39.08	29.16	14.25	4.40	26.82	9.66
Ccl5	19.58	3.82	44.87	28.37	22.81	4.45	25.01	7.25
Ccl6	10.43	3.95	4.98	1.32	12.32	4.07	20.91	14.86
Ccl7	21.01	4.94	16.32	3.45	16.42	3.74	26.49	12.61
Ccl8	24.06	9.03	29.12	11.48	13.62	2.29	40.63	34.31
Ccl9	42.22	10.81	31.32	8.73	34.42	7.01	83.34	37.12
Ccr1	13.65	4.83	58.26	46.25	8.40	2.51	15.48	4.68
Ccr2	14.02	3.45	30.29	12.85	12.86	2.54	29.14	8.68
Ccr3	15.87	2.71	20.52	3.25	14.80	3.51	34.85	18.32
Ccr4	1.59	0.50	2.74	1.35	2.77	0.86	16.44	13.10
Ccr5	40.03	10.04	34.76	5.10	23.00	6.00	37.23	7.75
Ccr6	4.64	1.34	9.74	6.81	3.12	0.59	8.04	3.43
Ccr7	5.11	1.51	4.51	1.37	5.81	2.60	11.55	5.67
Ccr8	1.64	0.47	0.90	0.24	2.25	0.89	6.36	3.18
Ccr9	2.82	0.39	4.54	1.29	3.04	0.44	8.40	4.18
Crp	2.61	1.07	0.87	0.21	2.37	1.04	6.21	3.26
Cx3cl1	340.65	48.22	203.81	44.72	279.52	51.60	264.85	48.67
Cxcl1	3.20	0.91	2.10	0.32	3.95	1.31	5.96	3.04
Cxcl10	13.31	2.66	10.33	2.03	20.96	5.03	20.67	9.66
Cxcl11	3.25	1.87	1.60	0.36	1.97	0.43	7.24	5.20
Cxcl12	320.98	61.45	288.53	57.58	388.16	81.29	409.85	34.75
Cxcl13	9.78	4.74	6.99	2.39	9.44	4.70	45.36	41.90
Cxcl15	1.53	0.48	4.87	3.89	1.64	0.51	5.18	3.15
Pf4	45.34	5.76	45.24	10.62	50.08	5.15	56.09	14.91
Cxcl5	2.21	0.47	30.69	26.06	3.90	0.42	13.49	6.59
Cxcl9	2.46	0.63	4.61	0.73	3.46	0.85	6.34	3.42
Cxcr3	5.83	1.62	4.04	0.82	3.61	0.48	7.78	2.90
Ccr10	11.83	2.13	12.25	3.45	13.33	2.87	31.99 ^{†‡§}	6.94

Ifng	1.84	0.43	0.90	0.20	2.13	0.59	22.20	20.10
Il10	1.82	0.38	4.89	2.83	1.85	0.43	17.09	14.70
Il10ra	23.75	8.32	12.24	2.84	27.55	10.95	20.62	3.41
Il10rb	258.62	46.29	214.34	24.91	223.36	22.80	289.63	44.90
Il11	2.00	0.47	2.20	0.40	2.78	0.28	5.52	3.08
Il13	1.77	0.47	8.77	7.68	1.68	0.49	10.60	8.22
Il13ra1	110.33	16.13	83.55	16.77	100.12	16.26	114.20	13.21
Il15	70.36	13.95	57.98	12.20	79.04	11.91	107.29	16.58
Il16	20.19	2.98	15.80	3.48	19.77	3.74	22.84	2.60
Il17b	1.68	0.43	1.18	0.43	1.65	0.51	7.88	5.83
Il18	14.21	1.77	8.91	1.77	13.74	4.40	24.53	9.15
Il1a	2.03	0.46	4.43	3.35	1.76	0.45	5.82	3.23
Il1b	10.48	3.42	4.99	1.37	7.87	1.76	12.15	4.05
Il1f6	3.33	1.95	6.07	4.77	1.77	0.45	5.18	3.15
Il1f8	1.68	0.43	1.65	0.63	1.79	0.45	5.36	3.33
Il1r1	121.85	22.58	93.12	22.28	112.62	30.98	145.41	29.81
Il1r2	3.70	0.94	4.41	1.64	18.44	13.41	11.70	6.50
Il20	2.29	1.01	0.90	0.24	1.64	0.51	5.24	3.14
Il2rb	1.88	0.37	2.38	0.72	2.48	0.74	5.89	3.01
Il2rg	26.35	3.80	24.28	4.83	26.00	2.93	25.92	3.14
Il3	1.58	0.46	18.60	17.39	1.89	0.65	5.97	3.94
Il4	1.85	0.45	10.54	9.26	1.66	0.50	5.31	3.28
Il5ra	1.59	0.45	1.03	0.18	1.72	0.47	12.57	10.40
Il6ra	82.38	29.89	50.37	15.86	146.10	58.58	102.69	39.30
Il6st	598.26	41.25	445.39	102.23	536.13	64.91	442.47	88.66
Il8rb	1.64	0.48	2.58	1.20	1.66	0.50	10.00	7.95
Itgam	101.52	25.41	110.03	30.16	88.03	22.51	137.64	40.74
Itgb2	56.23	10.96	38.11	9.47	47.85	9.48	72.63	14.96
Lta	1.51	0.49	2.12	1.17	1.73	0.48	5.18	3.15
Ltb	4.02	1.75	4.14	1.64	4.43	0.65	17.52	9.28
Mif	625.90	67.43	551.73	108.60	659.46	74.89	547.48	51.26
Scye1	265.06	24.01	227.30	34.12	282.30	20.48	289.52	31.86
Spp1	166.43	37.92	151.72	44.61	200.52	66.30	205.46	70.37
Tgfb1	212.89	23.83	188.36	39.99	249.09	38.44	329.83	73.87
Tnf	2.74	0.39	1.89	0.32	2.27	0.34	6.76	3.29
Tnfrsf1a	54.14	8.73	65.46	11.46	55.99	10.16	174.32	124.61
Tnfrsf1b	74.25	4.96	60.52	11.67	72.01	12.91	77.35	20.54
Cd40lg	1.77	0.57	1.91	0.60	1.69	0.49	5.23	3.14
Tollip	67.80	7.08	62.10	10.43	75.28	6.31	94.41	12.36
Xcr1	1.64	0.44	6.26	4.58	2.06	0.37	9.40	7.19

Values are reported as $2^{-\Delta\Delta C_T}$ x 1000. n=6/group. * p<0.05 vs. day 0; † p<0.05 vs. saline; ‡ p<0.05 vs. Aliskiren; § p<0.05 vs. Valsartan

Supplemental Table 4. Inflammatory gene results for MMP-9 null remote (LVC) and infarct (LVI).

Gene	LVC									
	Null Day 0		Null Saline		Null Aliskiren		Null Valsartan		Null A+V	
	AVG	SEM	AVG	SEM	AVG	SEM	AVG	SEM	AVG	SEM
Abcf1	183.34	8.77	322.74	34.06	300.38	24.10	306.77	55.76	271.70	35.87
Bcl6	45.97	8.73	40.43	3.82	57.70	7.69	71.53	22.29	47.86	4.13
Cxcr5	0.61	0.16	0.80	0.13	1.35	0.34	1.45	0.46	0.95	0.19
C3	341.27	47.94	398.66	56.87	389.12	53.16	479.44	136.16	346.62	31.29
Casp1	19.54	2.17	35.74*	3.18	30.83	4.53	36.92*	4.46	30.29	4.51
Ccl1	0.32	0.03	0.37	0.07	0.40	0.08	0.88	0.50	0.42	0.09
Ccl11	11.05	2.38	2.11*	0.42	1.62*	0.31	2.80*	1.01	2.95*	1.26
Ccl12	17.58	3.30	28.37	3.68	18.42	2.80	19.41	3.24	24.66	5.57
Ccl17	0.46	0.07	1.48	0.32	1.01	0.15	1.44	0.41	0.98	0.15
Ccl19	21.96	1.04	72.96*	14.15	72.79*	11.27	73.29*	12.25	78.04*	13.62
Ccl2	31.09	3.48	30.84	3.77	26.78	1.87	43.03	14.67	33.32	6.33
Ccl20	0.18	0.02	0.36	0.07	0.38	0.08	0.86	0.51	0.35	0.09
Ccl22	0.56	0.14	0.49	0.07	0.70	0.18	1.21	0.47	0.70	0.09
Ccl24	1.31	0.30	0.55	0.07	0.57	0.11	1.01	0.47	0.62	0.14
Ccl25	2.12	0.45	3.65	0.71	3.71	0.42	3.31	0.44	3.05	0.60
Ccl3	0.68	0.17	0.93	0.15	1.34	0.52	1.59	0.66	1.06	0.21
Ccl4	3.21	0.63	4.60	0.88	4.84	1.89	5.54	1.66	4.04	0.87
Ccl5	8.60	0.97	9.66	1.46	11.46	1.96	10.58	1.39	10.06	2.02
Ccl6	6.63	0.81	5.44	1.10	5.99	0.61	6.52	2.34	6.29	1.19
Ccl7	29.75	4.52	15.78*	2.51	13.06*	1.33	13.24*	2.66	15.96*	4.12
Ccl8	9.00	1.22	25.62*	4.46	19.00	3.26	18.77	4.39	26.16*	3.65
Ccl9	11.29	1.06	22.93*	2.63	20.69*	2.36	25.49*	4.01	23.05*	2.82
Ccr1	4.02	0.37	7.68	0.82	5.82	1.56	8.02	1.14	6.44	0.99
Ccr2	10.42	1.53	13.72	1.26	11.00	1.26	12.60	2.79	12.15	1.19
Ccr3	14.60	1.12	14.45	1.74	15.28	2.71	13.65	2.02	14.49	1.72
Ccr4	0.52	0.14	0.59	0.12	0.87	0.32	1.46	0.60	0.95	0.45
Ccr5	12.91	1.96	24.53	1.56	22.83	4.90	24.47	3.72	21.32	1.74
Ccr6	0.58	0.17	0.67	0.15	0.76	0.16	1.06	0.50	0.84	0.21
Ccr7	1.56	0.25	1.74	0.14	2.33	0.59	2.70	0.82	1.70	0.28
Ccr8	0.28	0.06	0.36	0.07	0.38	0.08	0.89	0.50	0.48	0.09
Ccr9	5.23	0.41	4.56	0.58	4.24	1.22	4.11	0.44	3.26	0.32
Crp	0.53	0.30	0.36	0.07	0.38	0.08	0.86	0.51	0.35	0.09
Cx3cl1	42.67	1.44	104.42*	14.86	108.50*	15.90	86.27	14.07	89.69	18.67
Cxcl1	2.21	0.50	2.43	0.33	1.69	0.27	2.18	0.45	1.88	0.35
Cxcl10	7.54	0.87	10.89	2.13	12.11	2.73	8.18	1.69	9.88	2.68
Cxcl11	0.57	0.12	0.88	0.30	1.23	0.24	1.82	0.96	0.84	0.16
Cxcl12	500.62	21.68	353.54	22.02	333.26	22.16	469.32	79.60	437.99	41.00
Cxcl13	0.65	0.10	1.89	0.28	2.19	0.64	3.29	1.61	2.56	0.73
Cxcl15	0.17	0.01	0.36	0.07	0.38	0.08	0.86	0.51	0.35	0.09
Pf4	77.94	4.83	37.94*	3.48	39.28*	2.47	48.95*	6.78	48.79*	6.05
Cxcl5	2.05	0.43	2.18	1.03	1.73	0.30	1.99	0.43	1.33	0.37
Cxcl9	21.97	2.42	9.14*	1.81	9.05*	1.90	9.66*	2.64	11.58*	2.60
Cxcr3	0.93	0.17	1.25	0.23	2.03	0.81	1.57	0.48	1.37	0.25
Ccr10	7.04	0.45	9.49	1.28	10.74	2.33	10.85	1.51	9.37	1.02

Ifng	0.21	0.03	0.44	0.09	0.41	0.07	0.86	0.51	0.50	0.10
Il10	0.61	0.10	0.91	0.21	0.96	0.15	1.32	0.42	0.71	0.13
Il10ra	7.17	1.33	6.84	0.83	9.17	0.90	8.74	1.41	7.24	1.11
Il10rb	347.45	13.52	369.54	42.95	316.11	31.04	335.66	29.86	337.44	26.91
Il11	0.21	0.02	0.76	0.08	0.98	0.27	1.29	0.45	0.81	0.17
Il13	0.23	0.05	0.43	0.12	0.46	0.12	0.88	0.50	0.35	0.09
Il13ra1	71.65	3.70	84.66	6.69	78.09	3.85	88.69	12.91	71.90	4.15
Il15	116.87	6.69	85.99*	8.59	81.05*	9.48	98.79*	7.96	80.21*	6.87
Il16	11.27	0.64	11.16	0.95	12.03	1.34	13.38	1.89	11.37	1.22
Il17b	0.25	0.03	0.36	0.07	0.50	0.16	0.95	0.50	0.36	0.09
Il18	2.76	0.24	4.96	0.72	4.71	0.60	4.20	0.64	3.92	0.38
Il1a	0.41	0.12	0.69	0.15	0.92	0.32	1.79	1.06	0.52	0.12
Il1b	3.15	0.52	5.36	0.63	5.58	1.92	5.11	1.64	2.81	0.54
Il1f6	0.30	0.07	0.36	0.07	0.38	0.08	0.86	0.51	0.38	0.08
Il1f8	0.31	0.07	0.37	0.07	0.38	0.08	2.15	1.77	0.35	0.09
Il1r1	25.58	1.91	48.32	3.49	53.49	10.19	56.47	7.04	50.08	10.34
Il1r2	0.65	0.13	2.65	0.87	2.25	0.35	3.96	1.35	2.00	0.72
Il20	0.17	0.01	0.36	0.07	0.38	0.08	0.86	0.51	0.35	0.09
Il2rb	1.54	0.27	1.12	0.26	1.31	0.16	1.48	0.48	1.14	0.21
Il2rg	40.66	3.05	31.22	2.21	30.37	3.06	33.97	0.77	33.52	2.20
Il3	0.17	0.01	0.36	0.07	0.38	0.08	0.86	0.51	0.35	0.09
Il4	0.31	0.04	0.43	0.06	0.43	0.08	1.00	0.49	0.49	0.11
Il5ra	0.20	0.03	0.38	0.07	0.38	0.08	0.86	0.51	0.35	0.09
Il6ra	23.72	2.42	26.33	2.32	42.29	12.07	41.39	8.10	30.93	4.31
Il6st	341.68	19.15	362.57	12.77	406.02	35.47	350.10	15.35	354.34	14.49
Il8rb	0.53	0.14	1.45	0.39	0.79	0.13	1.45	0.57	0.75	0.19
Itgam	18.58	0.83	33.56	2.44	42.84	10.70	36.05	5.36	34.77	3.92
Itgb2	16.34	0.83	27.27	2.82	27.50	5.11	21.97	2.46	24.06	2.90
Lta	0.18	0.01	0.41	0.07	0.38	0.08	0.88	0.50	0.35	0.09
Ltb	2.56	0.26	1.61	0.29	3.38	0.74	2.97	0.65	2.23	0.35
Mif	442.81	42.44	760.12*	84.07	673.17	61.03	541.87	74.19	630.02	25.28
Scye1	344.94	25.10	348.41	31.54	312.34	19.32	262.25	25.58	294.21	15.60
Spp1	1.18	0.30	44.97	14.61	46.37	18.39	37.74	10.92	30.73	8.02
Tgfb1	111.00	6.50	110.04	8.62	138.95	13.35	222.58	83.14	115.12	11.34
Tnf	3.47	0.94	1.63	0.24	1.72	0.26	2.26	0.35	1.59	0.33
Tnfrsf1a	38.00	4.24	38.76	3.01	44.33	3.87	47.68	6.27	40.89	3.22
Tnfrsf1b	16.87	1.26	30.57*	2.05	32.70*	6.14	34.28*	3.26	27.87	3.59
Cd40lg	0.25	0.04	0.37	0.07	0.50	0.11	0.90	0.50	0.49	0.10
Tollip	76.95	3.78	78.52	3.95	78.97	3.51	84.65	11.62	80.92	6.31
Xcr1	0.51	0.08	0.48	0.08	0.59	0.06	0.90	0.50	0.49	0.07

LVI

	Null Saline		Null Aliskiren		Null Valsartan		Null A+V	
	AVG	SEM	AVG	SEM	AVG	SEM	AVG	SEM
Abcf1	379.91	53.51	383.47	87.53	320.49	40.24	356.19	49.66
Bcl6	174.09	55.13	111.15	28.36	165.35	60.29	137.82	30.42
Cxcr5	7.27	2.08	8.12	5.08	5.27	1.96	3.83	1.03
C3	1394.26	400.03	824.85	205.23	689.45	144.75	941.69	183.27
Casp1	137.14	39.23	114.84	62.13	83.94	26.98	104.87	33.91
Ccl1	5.49	2.21	6.82	5.15	4.28	2.03	2.76	0.90
Ccl11	6.75	2.22	7.30	5.07	4.54	1.96	2.76	0.89
Ccl12	37.32	8.42	25.23	7.30	26.04	8.07	31.20	11.36
Ccl17	6.01	2.10	8.70	5.03	4.71	2.00	3.81	0.81
Ccl19	162.67	31.13	137.44	42.57	158.96	37.73	163.41	34.12
Ccl2	56.37	17.88	29.45	4.83	45.16	10.66	40.99	14.04
Ccl20	5.46	2.22	6.81	5.15	4.25	2.04	2.65	0.93
Ccl22	5.60	2.17	6.99	5.12	4.71	2.04	2.88	0.85
Ccl24	5.46	2.22	6.92	5.13	4.26	2.04	2.75	0.90
Ccl25	8.87	1.79	8.68	4.87	6.54	1.95	4.98	0.86
Ccl3	7.55	1.95	7.11	5.10	5.87	2.50	5.98	2.33
Ccl4	38.82	15.82	14.20	5.90	23.42	10.53	29.44	12.78
Ccl5	27.24	7.94	23.25	4.57	23.38	6.64	32.34	11.39
Ccl6	10.73	4.92	10.02	4.63	8.55	2.62	7.92	1.90
Ccl7	28.21	6.92	20.72	7.82	32.98	7.34	36.32	9.56
Ccl8	29.68	7.82	24.68	8.34	17.05	5.04	26.22	7.81
Ccl9	54.64	15.04	36.50	10.04	41.33	11.32	42.19	7.34
Ccr1	11.87	2.64	10.53	4.62	9.24	1.93	9.16	2.30
Ccr2	14.70	2.92	13.48	4.05	8.50	2.15	13.15	2.29
Ccr3	22.43	2.35	16.18	4.06	12.05	4.09	18.02	4.40
Ccr4	6.17	2.29	9.75	5.31	4.27	2.04	3.12	0.90
Ccr5	42.52	5.16	27.82	6.84	29.20	6.54	36.16	8.25
Ccr6	6.72	1.98	8.09	4.97	4.38	2.01	5.02	1.58
Ccr7	9.45	4.06	9.91	5.75	4.60	1.96	6.36	1.70
Ccr8	6.24	2.18	6.82	5.15	4.25	2.04	2.68	0.92
Ccr9	6.31	2.02	8.51	4.88	5.70	1.77	6.68	2.57
Crp	6.67	3.20	6.81	5.15	4.34	2.04	2.65	0.93
Cx3cl1	226.39	28.34	200.06	53.87	169.87	26.01	293.13	60.15
Cxcl1	5.81	2.13	7.52	5.02	4.77	1.91	3.20	0.79
Cxcl10	30.11	13.93	12.60	4.45	36.38	19.82	41.62	19.29
Cxcl11	7.01	2.48	6.99	5.12	7.51	3.23	2.96	0.89
Cxcl12	511.55	111.74	550.05	125.36	537.64	116.51	337.57	42.45
Cxcl13	10.57	3.31	8.97	4.85	8.03	2.40	14.70	7.97
Cxcl15	5.93	2.49	6.81	5.15	4.25	2.04	2.65	0.93
Pf4	79.14	14.55	46.32	13.34	49.82	7.55	44.76	6.82
Cxcl5	12.30	4.72	9.90	4.80	9.77	4.42	5.77	0.99
Cxcl9	6.63	2.25	10.36	4.66	8.30	1.79	6.35	0.93
Cxcr3	5.94	2.09	7.50	5.03	4.99	1.95	9.49	3.20
Ccr10	22.96	8.74	13.58	4.93	20.27	8.70	15.01	3.17
lfng	7.25	3.15	6.81	5.15	5.63	2.45	2.69	0.91

Il10	8.30	4.17	7.09	5.10	4.57	1.98	3.74	1.20
Il10ra	15.31	1.91	14.03	4.63	12.04	2.32	17.51	5.57
Il10rb	263.39	25.90	296.17	39.42	233.19	34.12	249.41	22.72
Il11	5.68	2.18	7.33	5.05	4.37	2.01	3.26	0.93
Il13	5.46	2.22	6.85	5.15	4.25	2.04	2.72	0.92
Il13ra1	103.90	9.86	99.81	19.86	102.79	15.42	110.05	15.80
Il15	109.26	40.25	81.89	12.61	117.86	38.41	85.43	15.99
Il16	14.41	2.53	18.09	3.71	17.44	3.79	19.20	2.49
Il17b	5.49	2.21	6.84	5.15	4.25	2.04	2.65	0.93
Il18	28.47	9.91	10.52	4.62	11.21	4.39	14.47	3.35
Il1a	5.66	2.16	6.87	5.14	4.52	1.99	2.74	0.90
Il1b	9.03	2.05	12.90	5.06	7.47	1.75	7.96	2.34
Il1f6	9.61	5.70	6.82	5.15	4.25	2.04	2.68	0.92
Il1f8	5.46	2.22	6.81	5.15	5.17	2.94	2.70	0.91
Il1r1	148.98	23.42	103.90	16.81	97.48	14.31	160.04	40.03
Il1r2	16.25	4.99	14.80	10.57	9.66	3.73	6.78	1.82
Il20	6.29	2.77	6.81	5.15	4.25	2.04	2.65	0.93
Il2rb	5.67	2.16	7.51	5.02	4.25	2.04	3.03	0.81
Il2rg	26.50	6.16	27.71	2.42	29.29	3.96	35.15	3.98
Il3	5.46	2.22	6.81	5.15	4.49	2.05	2.66	0.93
Il4	5.56	2.19	6.81	5.15	4.29	2.03	2.74	0.89
Il5ra	5.46	2.22	6.81	5.15	5.49	3.25	2.65	0.93
Il6ra	80.89	25.05	52.51	9.79	68.71	14.02	146.40	60.66
Il6st	491.02	42.32	428.47	78.50	410.25	32.09	485.25	66.81
Il8rb	5.66	2.16	7.34	5.06	4.55	1.97	2.73	0.90
Itgam	114.52	12.31	66.72	15.51	95.84	26.86	99.78	18.90
Itgb2	54.61	9.15	52.90	13.72	49.22	14.58	70.66	13.56
Lta	5.46	2.22	6.81	5.15	4.25	2.04	2.66	0.93
Ltb	10.18	3.46	11.28	4.63	8.89	4.11	7.03	1.55
Mif	745.71	127.97	690.57	157.22	705.07	149.60	705.33	168.12
Scye1	309.61	36.97	296.45	53.42	252.33	31.71	258.57	20.17
Spp1	190.10	54.30	118.90	46.01	114.30	28.80	203.60	44.34
Tgfb1	370.01	126.68	162.02	21.27	316.39	59.86	335.20	73.05
Tnf	6.22	2.13	7.92	4.95	4.91	1.91	5.66	2.02
Tnfrsf1a	45.46	5.81	37.85	5.92	39.50	2.59	58.11	9.28
Tnfrsf1b	61.08	15.73	61.79	16.57	70.88	26.36	54.44	10.69
Cd40lg	6.38	2.80	6.81	5.15	4.25	2.04	2.96	0.85
Tollip	81.13	16.18	100.66	18.04	78.29	13.33	76.62	6.40
Xcr1	5.52	2.20	7.10	5.10	4.27	0.00	3.46	0.82

Values are reported as $2^{-\Delta CT} \times 1000$. n=6/group. * p<0.05 vs. day 0

Supplemental Table 5. Clustering list of ECM genes.

WT						Null					
LVC			LVI			LVC			LVI		
A	V	AV	A	V	AV	A	V	AV	A	V	AV
Adamts1	Adamts1	Adamts1	Adamts8	Adamts5	Ncam2	Adamts8	Hc	Cdh3	Cdh3	Ctnna2	Col2a1
Adamts8	Cdh1	Adamts5	Mmp9	Ctnna2	Syt1	Col2a1	Mmp12	Mmp10	Mmp10	Cdh3	Thbs1
Ctnna2	Cntn1	Adamts8		Cdh1	Timp1		Cntn1	Mmp1a	Mmp1a	Hapln1	Ctgf
Cdh1	Col2a1	Ctnna2		Cdh3			Ncam2	Mmp7	Mmp7	Mmp10	Vcam1
Cdh3	Col4a2	Cdh1		Cdh4			Mmp13	Spock1	Ncam2	Mmp7	
Cntn1	Ctgf	Cdh3		Cntn1			Mmp7	Syt1	Spock1	Ncam2	
Hapln1	Hc	Cdh4		Col4a2			Sell	Col2a1	Syt1	Spock1	
Hc	Mmp2	Cntn1		Col6a1			Mmp8	Ctnna2	Ctnna2	Syt1	
Itga5	Spp1	Col1a1		Entpd1			Hapln1	Mmp12	Hapln1	Mmp1a	
Itgae	Vcam1	Col3a1		Hapln1			Lamb3	Cntn1	Lama1	Lama1	
Lama1		Col5a1		Hc			Cdh3	Lama1	Timp1	Timp1	
Mmp10		Ctgf		Itgae			Mmp10	Hapln1	Cdh1	Mmp11	
Mmp12		Entpd1		Itgam			Mmp1a	Ncam2	Mmp11	Cdh1	
Mmp13		Fbln1		Itgav			Spock1	Timp1	Cdh4	Itgax	
Mmp1a		Fn1		Itgax			Syt1	Hc	Itgb4	Cdh4	
Mmp7		Hapln1		Itgb3			Ctnna2	Itgb3	Cntn1	Lama3	
Mmp8		Hc		Itgb4			Lama1	Adamts8	Itga4	Thbs3	
Ncam2		Itgae		Lama1			Itga2	Entpd1	Itga2	Itgb4	
Sele		Itgb3		Lamc1			Timp1	Sell	Mmp12	Itga4	
Sell		Lama1		Mmp10			Itga5	Emilin1	Hc	Adamts2	
Spock1		Mmp10		Mmp11			Itgax	Col6a1	Col2a1	Col5a1	
Spp1		Mmp12		Mmp12			Lamb2	Mmp14	Sele	Cntn1	
Syt1		Mmp13		Mmp13			Itgae	Itgav	Itgal	Lamb2	
		Mmp1a		Mmp1a			Cdh1	Adamts2	Mmp8	Mmp12	
		Mmp2		Mmp2			Mmp15	Col4a2	Itga5	Hc	
		Mmp7		Mmp3			Adamts8	Sele	Mmp13	Itga2	
		Mmp8		Mmp7			Itga3	Lama3	Adamts5	Col2a1	
		Mmp9		Mmp8			Cdh4	Timp2	Lamb3	Sell	
		Ncam2		Mmp9			Sgce	Itga2	Lamb2	Mmp14	
		Postn		Ncam2			Selp	Ecm1	Tnc	Sele	
		Sell		Pecam1			Timp3	Fbln1	Itgax	Mmp8	
		Sparc		Sele			Lama3	Pecam1	Col4a3	Itgal	
		Spock1		Sell			Vcam1	Col4a1	Lamc1	Tnc	
		Syt1		Selp			Spp1	Vtn	Lama3	Itgav	
		Thbs1		Spock1			Col6a1	Itgam	Sell	Mmp13	
		Thbs2		Syt1			Col4a3	Cdh1	Itgae	Selp	
		Timp1		Thbs3			Fbln1		Mmp2	Itgam	
		Tnc		Timp1			Pecam1		Adamts2	Itga5	
		Vcam1		Tnc			Ncam1		Itgb3	Itga3	
							Col3a1		Selp	Col1a1	
							Col2a1		Mmp14	Mmp3	
									Thbs3	Timp2	
									Col1a1	Itgb2	
									Mmp15	Adamts5	
									Thbs2	Itgb1	
									Itgb1	Vtn	
									Itga3	Itgae	
									Ncam1	Spp1	

Supplemental Table 6. Clustering list of inflammatory genes.

WT						Null					
LVC			LVI			LVC			LVI		
A	V	A+V	A	V	A+V	A	V	A+V	A	V	A+V
Ccl1	Ccl17	Abcf1	Casp1	Il1r2	Ccr8	Cxcr3	Il1f8	Ccr4	Ccl20	Il5ra	Cxcl13
Ccl11	Cxcl13	Bcl6	Ccl11		Cxcl5	Ccl3	Il1a	Cxcl13	Il1f8	Il1f8	Il6ra
Ccl17	Il1r2	Cxcr5	Ccl24		Spp1	Ltb	Ccl20	Il1r2	Il3	Tnfrsf1b	Ccr9
Ccl19	Spp1	C3	Ccl3		Tnfrsf1a	Spp1	Crp	Ccr6	Il5ra	Ltb	Il1r1
Ccl20	Xcr1	Casp1	Ccl4			Ccl4	Cxcl15	Crp	Lta	Ccl20	Ccl7
Ccl25		Ccl1	Ccl5			Il6ra	Il1f6	Cxcl15	Il13	Il13	Spp1
Ccl6		Ccl17	Ccl8			Cxcr5	Il20	Il20	Ccl24	Lta	
Ccl9		Ccl19	Ccr1			Ccr7	Il3	Il3	Ccl1	Il3	
Ccr4		Ccl2	Ccr2			Il1a	Ccl1	Ccl20	Il17b	Ccl24	
Ccr8		Ccl20	Ccr4			Itgam	Ccr8	Il17b	Il4	Il17b	
Ccr9		Ccl22	Ccr6			Il11	Il17b	Il1f8	Xcr1	Ccl1	
Crp		Ccl24	Ccr9			Ccl22	Cd40lg	Il5ra	Ccl22	Xcr1	
Cxcl11		Ccl25	Cxcl15			Il17b	Il5ra	Il1f6	Il1a	Ccr10	
Cxcl13		Ccl3	Cxcl5			Ccr9	Lta	Lta	Il8rb	Il4	
Cxcl15		Ccl4	Ccr10			Il13	Il13	Il1r1	Il11	Ccl22	
Ifng		Ccl5	Il10			Cxcl11	Ifng	Ccl1	Il2rb	Il2rb	
Il13		Ccl6	Il13			Ccl1	Il4	Il13	Cxcl15	Il11	
Il17b		Ccl9	Il1a			Ccl20	Cxcl11	Ccr8	Cxcl1	Il1a	
Il1a		Ccr1	Il1f6			Crp	Xcr1	Il4	Cxcr3	Cxcl15	
Il1f6		Ccr7	Il1f8			Cxcl15	Ccr4	Ifng	Ccr8	Il8rb	
Il1f8		Ccr8	Il3			Il1f6	Ccl22	Ccl25	Ccl17	Bcl6	
Il1r2		Ccr9	Il4			Il20	Ccl24	Ccl19	Il20	Il15	
Il20		Crp	Il8rb			Il3	Tgfb1	Cxcl9	Cd40lg	Ccl17	
Il3		Cx3cl1	Itgam			Cxcl10	Ccr6	Cd40lg	Tnf	Ccr4	
Il4		Cxcl1	Lta			Ccr8	Ccl3	Ccl6	Crp	Cxcr3	
Il5ra		Cxcl11	Cd40lg			Tnfrsf1b	Il11	Ccl7	Ccr9	Ccr8	
Il8rb		Cxcl12	Xcr1			Il1f8	Bcl6	Xcr1	Ccr4	Cxcl1	
Lta		Cxcl13				Il5ra	Cxcr5	Casp1	Ccl11	Cxcl5	
Ltb		Cxcl15				Il1r1	Ccl2		Ccr6	Il20	
Spp1		Pf4				Bcl6	Ccr7		Cxcl11	Cd40lg	
Cd40lg		Cxcl9				Lta	Il10		Ifng	Crp	
Xcr1		Cxcr3				Ccr5	Il1r2		Cxcr5	Tnf	
		Ccr10				Ccr3	Ltb		Ccl3	Ccr6	
		Ifng				Itgb2	Il2rb		Cxcl9	Ccl11	
		Il10				Ccl5	Ccl4		Il1r2	Ifng	
		Il10ra				Ccr1	C3		Il10	Cxcl11	
		Il10rb				Ccr10	Cxcr3		Ccr7	Ccl3	
		Il11				Il1b	Ccl17		Ccl25	Ccr9	
		Il13				Il4	Il8rb		Il1f6	Cxcr5	
		Il13ra1				Ifng	Ccl11		Il1b	Ccl4	
		Il15				Tnf	Cxcl12		Casp1	Itgb2	
		Il16				Tgfb1	Cxcl9		Cxcl13	Il16	

Il17b	Cd40lg	Abcf1	Ltb	Il10
Il18		Il1b	Ccl6	Ccl6
Il1a		Tnf	Cxcl5	Ccl5
Il1b		Spp1	Ccr1	Il1f6
Il1f6		Ccl9	Ccr2	Ccr7
Il1f8		Il6ra	Ccl8	Itgam
Il1r1		Il13ra1	Tnfrsf1b	Ccl9
Il1r2		Il16	Il10ra	Casp1
Il20		Tnfrsf1a	Il16	Ccl25
Il2rb		Ccr2	Cxcl12	Cxcl9
Il2rg		Tollip	Tollip	Ccl19
Il3		Pf4	Ccr10	Ccl7
Il4		Cxcl5	Il13ra1	Cxcl13
Il5ra		Ccr3	Itgb2	Ccl2
Il6ra		Ccr5	Ccl9	Il1b
Il6st		Ccl5	Ccr3	Tgfb1
Il8rb			Il18	Il18
Itgam			Bcl6	Il1r2
Itgb2			Ccl5	Il6ra
Lta			Ccl4	Tollip
Mif			Abcf1	
Scye1			Cxcl10	
Tgfb1			Ccl7	
Tnf			Ccl12	
Tnfrsf1a			Il6ra	
Tnfrsf1b			C3	
Cd40lg			Scye1	
Tollip			Ccl2	
Xcr1			Ccl19	
			Il6st	
			Il10rb	
			Ccr5	
			Itgam	
			Il2rg	
			Il1r1	
			Spp1	
			Tgfb1	
			Mif	
			Cx3cl1	

Table 7. Plasma proteomic profiling results for WT and MMP-9 null mice

Analyte	WT Saline	WT Aliskiren	WT Valsartan	WT A+V	Null Saline	Null Aliskiren	Null Valsartan	Null A+V
Apo A-1	38.3±6.2	45.3±15.4	43.2±9.8	51.7±11.9	28.±1.2	79.4±18.9	58.3±10.9	59.3±14.3
CD40	31.0±3.1	38.6±9.3	41.9±3.6	38.3±3.6	25.3±3.1	23.9±2.2	26.2±2.9†	22.7±1.2‡
CD40-L	2620±404	2131±300	2624±518	2902±909	2686±332	2048±422	3333±679	1998±181
CRP	4.4±0.3	5.7±0.3	5.8±0.4	6.3±0.5	6.3±0.4	6.5±0.3	6.0±0.6	6.4±0.5
ET-1	58.5±7.0	68.3±9.2	51.7±5.8	56.5±8.0	86.2±5.2	64.9±11.6	68.7±7.9	65.5±5.6
Eotaxin	1201±157	1081±207	1146±124	1032±166	1108±141	1181±112	985±101	1067±89
EGF	100±27	138±34	157±65	169±95	121±26	96±21	212±93	141±28
Factor VII	48.5±8.7	50.5±7.2	42.7±5.5	49.5±6.4	64.4±3.4	59.2±4.3	62.3±3.4	50.9±4.3
Fibrinogen	48400±4712	48700±3689	69936±12012	58278±10710	47330±2082	53282±3987	42594±3771	55282±4341
FGF-9	ND	ND	ND	ND	ND	ND	ND	ND
FGF-Basic	93.0±24.3	57.4±12.1	86.2±19.3	49.9±10.6	38.1±1.3‡	36.6±2.3	37.3±1.9	51.3±9.2
GST-alpha	0.059±0.005	7.95±4.55	0.31±0.10	ND	3.13±1.05	0.16±0.04	0.07±0.01	0.35±0.03
GCP-2	4.41±0.86	2.92±0.15	4.20±1.02	5.55±1.48	3.52±0.36	5.17±1.01	5.58±0.86	±0.48
GM-CSF	ND	ND	ND	ND	2.16±0.00	ND	ND	ND
KC/GRO	0.10±0.03	0.11±0.03	0.11±0.02	0.14±0.03	0.21±0.02	0.13±0.07	0.26±0.08	0.26±0.12
Haptoglobin	64±10	66±6	108±20	90±17	93±14	102±11	73±14	93±12
IgA	145±89	91±22	64±12	115±51	118±25	95±13	98±9	90±10
IFN-gamma	6.5±1.8	5.5±1.3	ND	15.0±1.5	ND	2.8±0.0	2.8±0.0	6.6±1.9
IP-10	147±37	106±14	65±10	118±40	162±19	116±21	119±18	125±19
IL-1 alpha	160±49	103±28	141±23	198±69	226±62	173±42	181±65	142±27
IL-1 beta	4.2±0.6	4.9±0.8	3.7±0.4	4.8±0.8	6.4±0.5	8.5±2.4	7.2±0.5	5.4±0.6
IL-10	118±8	ND	103±7	ND	ND	ND	115±14	103±9
IL-11	300±115	40±7	50±7	96±15	111	ND	118±29	60±6
IL-12p70	ND	ND	ND	ND	ND	ND	0.09±0.02	ND
IL-17A	0.0062±0.0004	ND	ND	0.007±0.001	0.00534±0.000	0.006±0.001	0.007±0.000	0.0053±0.0002
IL-18	14.6±2.8	20.2±3.4	16.8±2.5	20.1±3.4	23.3±1.6	21.1±0.9	22.8±1.9	17.3±1.4
IL-2	ND	13.7±1.7	10.1±0.0	14.9±1.4	ND	ND	ND	ND
IL-3	ND	ND	ND	ND	ND	ND	ND	ND
IL-4	ND	ND	25±4	39±7	ND	41±8	36±6	52±6
IL-5	ND	0.30±0.05	0.29±0.06	0.49±0.10	ND	0.19±0.02	0.29±0.05	0.21±0.02
IL-6	29.7±7.7	29.7±7.7	35.2±9.0	67.4±30.6	13.0±1.7	10.0±2.2	21.4±5.0	19.1±4.1
IL-7	0.130±0.014	0.185±0.007	0.090±0.016	0.145±0.021	0.193±0.008	0.210±0.081	0.181±0.030	0.211±0.026
LIF	1679±313	1790±293	1454±219	1664±284	2296±100	1751±211	1967±195	1777±214
Lymphotactin	734±13	49±8	50±7	74±9	58±6	73±7	71±6	66±5
M-CSF-1	4.8±0.2	4.7±0.2	4.4±0.3	4.8±0.2	4.6±0.2	4.6±0.1	4.6±0.1	4.5±0.1
MIP-1 alpha	5.4±1.0	6.2±0.7	5.5±0.5	6.0±0.7	7.2±0.8	6.0±0.4	6.4±0.5	5.6±0.4
MIP-1 beta	114±18	122±18	135±23	126±22	158±8	108±19	121±15	131±12
MIP-1 gamma	19±2	20±1	21±2	20±3	24±2	20±1	21±2	20±1
MIP-2	7.7±1.2	4.5±0.7	12.5±3.4	9.9±1.0	11.3±2.5	6.7±1.9	11.2±1.9	12.1±3.7
MIP-3 beta	2.0±0.2	1.9±0.3	1.9±0.2	2.5±0.5	2.1±0.1	2.9±0.3	2.7±0.2	2.1±0.1
MDC	2354±298	2474±693	2282±173	2157±330	2193±298	2642±303	2334±290	2205±238
MMP-9	55±7	65±5	70±6	75±8	ND	ND	ND	ND
MCP-1	58±11	57±11	107±21	96±29	97±14	79±8	94±19	117±30
MCP-3	176±24	188±32	328±55	243±71	285±29	195±21	277±55	317±68
MCP-5	17±2	17±4	25±5	23±6	22±3	19±2	20±2	22±3
MPO	64±6	76±10	92±13	96±20	89±9	95±11	77±9	75±5
Myoglobin	200±43	167±42	106±23	287±3	226±63	762±474	354±76	361±106
OSM	0.097±0.033	0.070±0.008	0.071±0.017	0.103±0.010	0.068±0.006	0.070±0.014	0.092±0.019	0.059±0.006
SAP	15.6±1.2	22.1±2.1	22.9±1.8	25.5±1.5	23.4±1.4	26.1±1.8	24.3±2.4	23.2±1.8
SGOT	94±14	105±29	71±19	132±47	61±8	72±10	90±16	88±11
SCF	290±50	232±18	290±32	302±41	211±10	775±549	228±17	228±16
RANTES	0.069±0.015	0.0531±0.023	0.133±0.023	0.157±0.032	ND	0.067±0.014	0.054±0.008	0.051±0.006
TPO	35±7	38±6	31±5	40±5	53±3	40±4	44±4	37±3
TF	10.1±1.4	10.3±1.7	10.5±1.3	12.1±2.0	11.7±1.2	12.2±0.9	13.1±1.1	9.6±0.9
TIMP-1	0.90±0.12	1.44±0.49	2.46±0.51	2.87±0.96†	1.53±0.10	1.10±0.10	1.34±0.18	1.26±0.15‡
TNF alpha	0.034±0.003	0.042±0.003	0.029±0.01	0.06±0.007	0.042±0.003	ND	0.028	0.052±0.004
VCAM-1	1036±72	1022±34	927±40	1005±81	1140±32	1065±34	1017±41	1005±24
VEGF-A	514±282	224±31	409±115	2453±2244	257±45	272±44	614±288	240±27
VWF	294±31	306±35	278±36	271±43	342±20	350±38	281±29	298±32

All values are reported as AVG±SEM. ND is non-detectable. † p<0.05 vs saline control; ‡ p<0.05 vs. WT counterpart

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