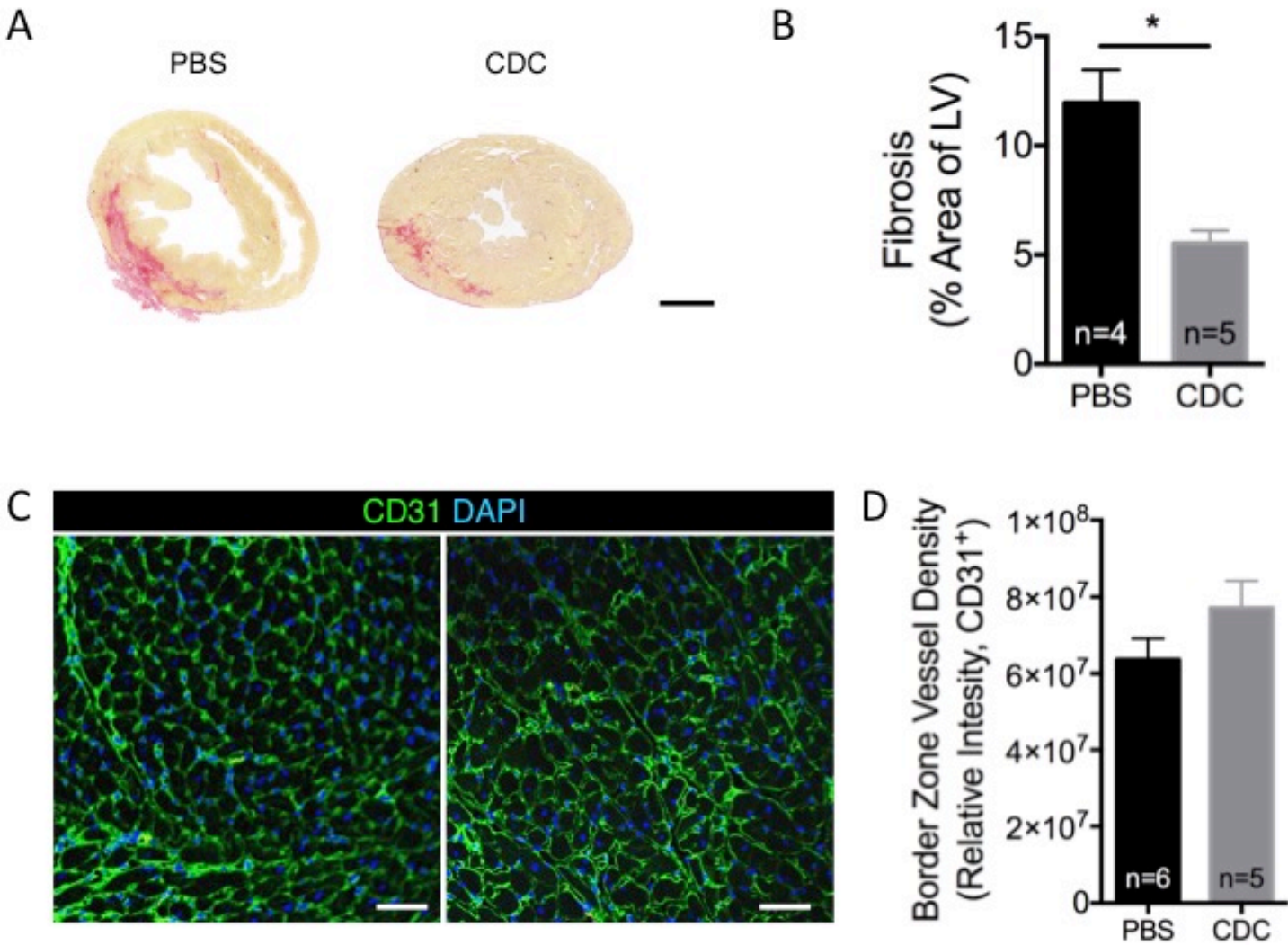
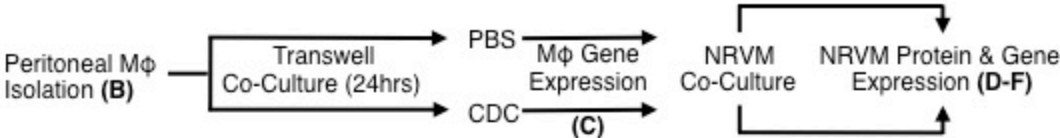


Supplemental Figure 1.

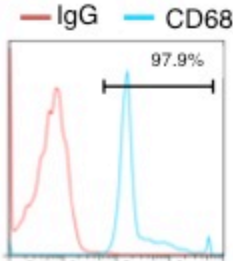


Supplemental Figure 2.

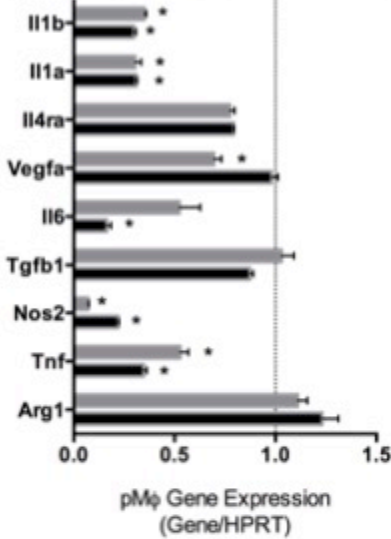
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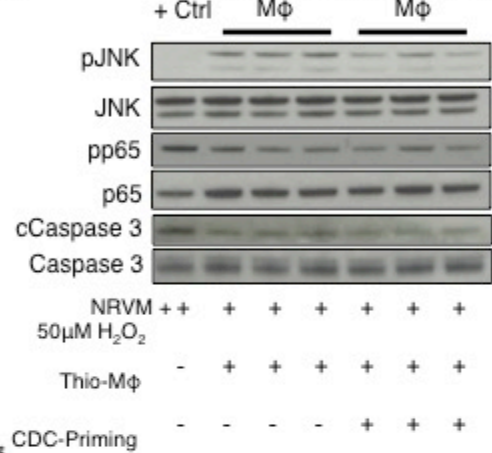
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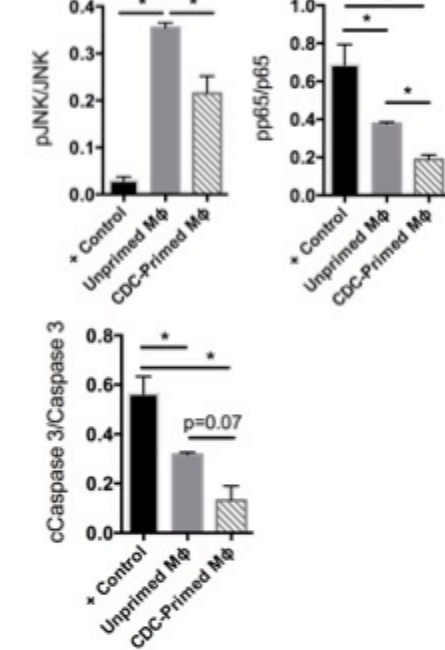
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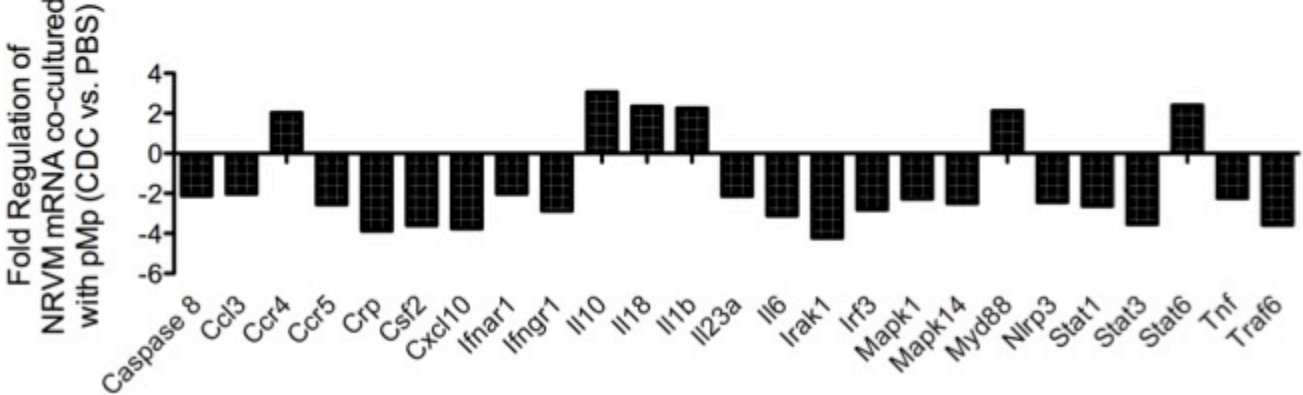
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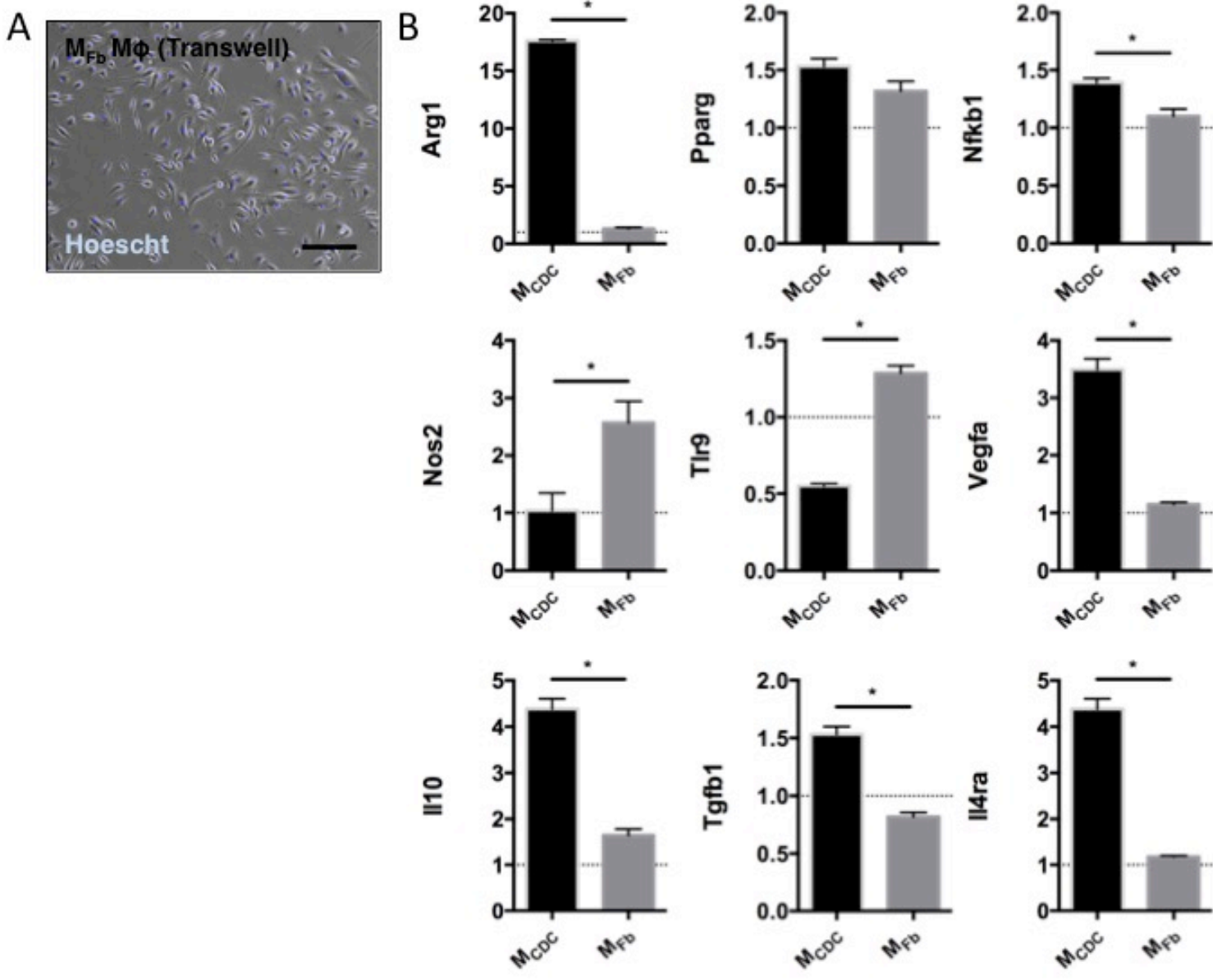
E



F



Supplemental Figure 3.



## SUPPLEMENTAL DATA

### **Supplemental Figure 1. CDCs reduce fibrosis but do not alter the vessel density following IR.**

(A) Representative picrosirius red stain of infarcted hearts 2 weeks following IR injury. Scale bar: 2mm (B) Quantification of fibrosis within the ischemic heart (average value of apex, mid, and base; n=4-5 rats/group). (C) Representative immunohistochemical staining of CD31<sup>+</sup> vessels within the border zone 48hrs following IR injury. Scale bar: 50μm (D) Quantification of vessel density (n=5-6 rats/group). Graphs depict mean ± SEM. Statistical significance was determined using Student's T-test. \*p<0.05

### **Supplemental Figure 2. CDC polarization of thioglycollate-elicited peritoneal Mφ (pMφ).**

(A) Schematic depicting the duration of transwell coculture prior to gene expression analysis of isolated pMφ and subsequent co-culture with NRVMs. (B) Representative flow plot depicting the purity of CD68<sup>+</sup> pMφ following peritoneal lavage. (C) Pooled changes in gene expression of M1 and M2 markers observed in pMφ cocultured in transwell with CDC after 6 or 24 hours (relative to PBS control). NRVMs were then treated with H<sub>2</sub>O<sub>2</sub> (50μM), prior to transwell coculture with pMφ. After 6 hours, NRVMs were collected for protein and gene expression analyses (n = 3 rats/group). (D) Immunoblots depicting the reduction in stress (pJNK, pp65) and apoptosis (caspase 3) marker expression in CDC-primed Mφ (n = 3 rats/group). (E) Pooled changes in protein expression of immunoblots in (D). (F) Changes in cardiomyocyte stress-associated gene expression of CDC-primed versus PBS-primed pMφ (pooled n=3/group). Graphs depict mean ± SEM. Statistical significance was determined using 1-way ANOVA followed by Tukey's multiple comparisons test. \*p<0.05

### **Supplemental Figure 3. Co-culture of CDCs, but not fibroblasts, with BM-derived Mφ elicit a distinct gene expression profile.**

(A) Representative phase contrast image of BM-derived Mφ following co-culture with fibroblasts (M<sub>Fb</sub>). Scale bar: 100μm (B) Gene expression profiles of Mφ polarized toward M<sub>Fb</sub> and M<sub>CDC</sub> (n = 3/group). Graphs depict mean ± SEM. Statistical significance was determined using 1-way ANOVA followed by Tukey's multiple comparisons test. \*p<0.05.

**Supplemental Table 1. Echocardiographic measurements 2 weeks following IR.**

	Baseline		2 weeks	
	PBS	CDC	PBS	CDC
<b>Sample number (n)</b>	4	4	7	8
<b>Ejection Fraction (EF; %)</b>	69.7 ± 1.3	68.9 ± 1.8	49.3 ± 6.1 <sup>A</sup>	63.5 ± 5.1 <sup>AB</sup>
<b>Fractional Area of Change (FAC; %)</b>	47.4 ± 2.9	46.7 ± 1.6	30.23 ± 5.1 <sup>A</sup>	42.8 ± 4.0 <sup>AB</sup>
<b>End Systolic Volume (ESV; µL)</b>	35.8 ± 8.4	42.3 ± 4.2	67.5 ± 10.2 <sup>A</sup>	50.0 ± 19.9 <sup>A</sup>
<b>End Diastolic Volume (EDV; µL)</b>	119.2 ± 23.8	136.1 ± 7.6	132.5 ± 17.2	138.2 ± 49.8

<sup>A</sup> p<0.05 versus equivalent baseline control; <sup>B</sup> p<0.05 versus PBS 2 week treatment. Statistical significance was determined using 2-way ANOVA followed by Sidak's multiple comparisons test.

**Supplemental Table 2. Peripherally-Circulating Inflammatory Cells from Blood (48hrs post-AMI).**

	<b>CDC</b>			<b>PBS</b>			<b>p-value</b>
	<b>Mean</b> <b>(%)</b>	<b>SEM</b>	<b>n</b>	<b>Mean</b> <b>(%)</b>	<b>SEM</b>	<b>n</b>	
<b>CD45<sup>+</sup>CD68<sup>+</sup></b>	6.84	0.61	4	6.20	0.49	4	0.50
<b>CD45<sup>+</sup>CD11b<sup>+</sup></b>	8.98	0.86	4	10.08	0.38	4	0.29
<b>CD45<sup>+</sup>Gran<sup>+</sup></b>	5.77	1.24	4	7.49	1.18	4	0.35
<b>CD45<sup>+</sup>CD11b<sup>+</sup>CD11c<sup>+</sup></b>	11.91	0.87	4	11.26	1.11	4	0.66
<b>CD45<sup>+</sup>CD3<sup>+</sup>CD4<sup>+</sup></b>	26.61	1.56	4	27.75	3.23	4	0.76
<b>CD45<sup>+</sup>CD161a<sup>+</sup></b>	0.73	0.17	4	0.74	0.02	4	0.96
<b>CD4<sup>+</sup>CD25<sup>+</sup>Foxp3<sup>+</sup></b>	1.21	0.18	4	1.20	0.13	4	0.97

**Supplemental Table 3. Infiltrating Inflammatory Cells within the Ischemic Myocardium (48hrs post-AMI)**

	CDC			PBS			p-value
	Mean (%)	SEM	N	Mean (%)	SEM	n	
<b>CD45<sup>+</sup>CD11b<sup>+</sup></b>	27.53	1.29	4	16.95	2.31	4	*<0.01
<b>CD45<sup>+</sup>Gran<sup>+</sup></b>	46.88	0.67	4	47.33	1.41	4	0.78
<b>CD45<sup>+</sup>CD11b<sup>+</sup>CD11c<sup>+</sup></b>	19.73	1.14	4	16.70	0.67	4	*0.05
<b>CD45<sup>+</sup>CD3<sup>+</sup>CD4<sup>+</sup></b>	7.74	0.90	4	8.34	0.81	4	0.64
<b>CD45<sup>+</sup>CD3<sup>+</sup>CD8<sup>+</sup></b>	7.30	0.92	4	7.35	1.36	4	0.98

**Supplemental Table 4. Antibodies used for flow cytometry.**

<b>Antibody</b>	<b>Fluorophore</b>	<b>Clone</b>	<b>Catalog No.</b>	<b>Supplier</b>
CD45	FITC	OX-1	554877	BD Biosciences
CD45	PE-Cy7	OX-1	561588	BD Biosciences
CD11b	APC	WT.5	562102	BD Biosciences
CD11c	FITC	8A2	MCA1441F	AbD Serotec
CD3	APC	1F4	557030	BD Biosciences
CD4	FITC	OX-35	554837	BD Biosciences
CD8a	PE	OX-8	554857	BD Biosciences
CD68	PE	ED1	MCA341PE	AbD Serotec
Granulocyte	FITC	HIS48	554907	BD Biosciences
CD161a	PE	10/78	555009	BD Biosciences
CD80	PE	3H5	555014	BD Biosciences
CD86	FITC	24F	555018	BD Biosciences