

# Paracrine Interactions between Adipocytes and Tumor Cells Recruit and Modify Macrophages to the Mammary Tumor Microenvironment: the Role of Obesity and Inflammation in Breast Adipose Tissue

**Supplementary Table of Figure 1.** Statistical analysis of Free Fatty Acid (FFA) production by adipocytes, macrophages and mammary tumor cells.

One way ANOVA: \*  $p < 0.05$

Tukey's multiple comparisons.

ns  $p > 0.05$  \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$  \*\*\*\*  $p < 0.0001$

Comparison	Significance
3T3-L1 vs. 3T3-L1/N-PEMs	ns
3T3-L1 vs. 3T3-L1/E0771	ns
3T3-L1 vs. 3T3-L1/N-PEMs/E0771	*
3T3-L1/N-PEMs vs. 3T3-L1/E0771	ns
3T3-L1/N-PEMs vs. 3T3-L1/N-PEMs/E0771	ns
3T3-L1/E0771 vs. 3T3-L1/N-PEMs/E0771	ns

**Supplementary Tables of Figure 2.** Statistical analysis of leptin production by adipocytes, macrophages and mammary tumor cells.

## A

One way ANOVA: \*\*\*  $P < 0.001$

Tukey's multiple comparisons.

ns  $p > 0.05$  \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$  \*\*\*\*  $p < 0.0001$

Comparison	Significance
3T3 vs. 3T3/N-PEM	**
3T3 vs. 3T3/E0771	ns
3T3 vs. 3T3/N-PEM/E0771	*
3T3/N-PEM vs. 3T3/E0771	**
3T3/N-PEM vs. 3T3/N-PEM/E0771	***
3T3/E0771 vs. 3T3/N-PEM/E0771	**

## B

One way ANOVA: \*\*\*\*  $p < 0.0001$

Tukey's multiple comparisons.

ns  $p > 0.05$  \* $p < 0.05$  \*\* $p < 0.01$  \*\*\* $p < 0.001$  \*\*\*\* $p < 0.0001$

Comparison	Significance
Adipocytes ( <i>ex vivo</i> ) vs. Adipocytes/N-PEM	**
Adipocytes ( <i>ex vivo</i> ) vs. Adipocytes/E0771	****
Adipocytes ( <i>ex vivo</i> ) vs. Adipocytes/N-PEM/E0771	**
Adipocytes/N-PEM vs. Adipocytes/E0771	****
Adipocytes/N-PEM vs. Adipocytes/N-PEM/E0771	ns
Adipocytes/E0771 vs. Adipocytes/N-PEM/E0771	****

**Supplementary Tables of Figure 3.** Statistical analysis of CCL2 production by adipocytes, macrophages and mammary tumor cells.

### **A**

One way ANOVA: \*\*\*\*  $p < 0.0001$

Tukey's multiple comparisons.

ns  $p > 0.05$  \* $p < 0.05$  \*\* $p < 0.01$  \*\*\* $p < 0.001$  \*\*\*\* $p < 0.0001$

Comparison	Significance
3T3 vs. 3T3/N-PEM	ns
3T3 vs. 3T3/E0771	****
3T3 vs. 3T3/N-PEM/E0771	****
3T3 vs. E0771	****
3T3/N-PEM vs. 3T3/E0771	****
3T3/N-PEM vs. 3T3/N-PEM/E0771	****
3T3/N-PEM vs. E0771	****
3T3/E0771 vs. 3T3/N-PEM/E0771	ns
3T3/E0771 vs. E0771	ns
3T3/N-PEM/E0771 vs. E0771	ns

### **B**

One way ANOVA: \*\*\*\*  $p < 0.0001$

Tukey's multiple comparisons.

ns  $p > 0.05$  \* $p < 0.05$  \*\* $p < 0.01$  \*\*\* $p < 0.001$  \*\*\*\* $p < 0.0001$

Comparison	Significance
Adipocytes ( <i>ex vivo</i> ) vs. Adipocytes/N-PEM	ns
Adipocytes ( <i>ex vivo</i> ) vs. Adipocytes/E0771	***
Adipocytes ( <i>ex vivo</i> ) vs. Adipoc/N-PEM/E0771	****
Adipocytes ( <i>ex vivo</i> ) vs. E0771	***
Adipocytes/N-PEM vs. Adipocytes/E0771	**

Adipocytes/N-PEM vs. Adipoc/N-PEM/E0771	****
Adipocytes/N-PEM vs. E0771	***
Adipocytes/E0771 vs. Adipoc/N-PEM/E0771	**
Adipocytes/E0771 vs. E0771	ns
Adipoc/N-PEM/E0771 vs. E0771	*

**Supplementary Tables of Figure 4.** Statistical analysis of migration experiments.

### A1

One way ANOVA: \*\*\*  $p < 0.001$

Tukey's multiple comparisons.

ns  $p > 0.05$  \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$  \*\*\*\*  $p < 0.0001$

Comparison	Significance
Medium vs. CCL2 (10 ng/mL)	*
Medium vs. CCL2 (10 ng/mL)/anti-CCL2	ns
Medium vs. CCL2 (50 ng/mL)	***
Medium vs. CCL2 (50 ng/mL)/anti-CCL2	*
CCL2 (10 ng/mL) vs. CCL2 (10 ng/mL)/anti-CCL2	ns
CCL2 (10 ng/mL) vs. CCL2 (50 ng/mL)	**
CCL2 (10 ng/mL) vs. CCL2 (50 ng/mL)/anti-CCL2	ns
CCL2 (10 ng/mL)/anti-CCL2 vs. CCL2 (50 ng/mL)	**
CCL2 (10 ng/mL)/anti-CCL2 vs. CCL2 (50 ng/mL)/anti-CCL2	ns
CCL2 (50 ng/mL) vs. CCL2 (50 ng/mL)/anti-CCL2	**

### A2

One way ANOVA: \*\*\*  $p < 0.001$

Tukey's multiple comparisons.

ns  $p > 0.05$  \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$  \*\*\*\*  $p < 0.0001$

Comparison	Significance
Medium vs. CCL2 (50 ng/mL)	***
Medium vs. Leptin (3 ng/mL)	ns
Medium vs. Leptin (100 ng/mL)	ns
Medium vs. Leptin (500 ng/mL)	ns
CCL2 (50 ng/mL) vs. Leptin (3 ng/mL)	**
CCL2 (50 ng/mL) vs. Leptin (100 ng/mL)	***
CCL2 (50 ng/mL) vs. Leptin (500 ng/mL)	***
Leptin (3 ng/mL) vs. Leptin (100 ng/mL)	ns
Leptin (3 ng/mL) vs. Leptin (500 ng/mL)	ns
Leptin (100 ng/mL) vs. Leptin (500 ng/mL)	ns

**A3**

One way ANOVA: \*\*\*\*  $p < 0.0001$

Tukey's multiple comparisons.

ns  $p > 0.05$  \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$  \*\*\*\*  $p < 0.0001$

Comparison	Significance
Medium vs. CCL2 (50 ng/mL)	****
Medium vs. LA (2.5 mM)	ns
Medium vs. LA (5 mM)	ns
Medium vs. LA (10 mM)	ns
Medium vs. LA (100 mM)	ns
CCL2 (50 ng/mL) vs. LA (2.5 mM)	****
CCL2 (50 ng/mL) vs. LA (5 mM)	****
CCL2 (50 ng/mL) vs. LA (10 mM)	****
CCL2 (50 ng/mL) vs. LA (100 mM)	****
LA (2.5 mM) vs. LA (5 mM)	ns
LA (2.5 mM) vs. LA (10 mM)	ns
LA (2.5 mM) vs. LA (100 mM)	ns
LA (5 mM) vs. LA (10 mM)	ns
LA (5 mM) vs. LA (100 mM)	ns
LA (10 mM) vs. LA (100 mM)	ns

**B**

One way ANOVA: \*\*  $p < 0.01$

Tukey's multiple comparisons.

ns  $p > 0.05$  \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$  \*\*\*\*  $p < 0.0001$

Comparison	Significance
Medium vs. CCL2	*
Medium vs. CCL2/Leptin	*
Medium vs. CCL2/Leptin/LA	*
Medium vs. Leptin/LA	ns
CCL2 vs. CCL2/Leptin	ns
CCL2 vs. CCL2/Leptin/LA	ns
CCL2 vs. Leptin/LA	*
CCL2/Leptin vs. CCL2/Leptin/LA	ns
CCL2/Leptin vs. Leptin/LA	*
CCL2/Leptin/LA vs. Leptin/LA	*

**C1**

One way ANOVA: \*\*\*\*  $p < 0.0001$

Tukey's multiple comparisons.

ns  $p > 0.05$  \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$  \*\*\*\*  $p < 0.0001$

Comparison	Significance
Medium vs. CCL2 (50 ng/mL)	****
Medium vs. CCL2 (50 ng/mL)/anti-CCL2	*
Medium vs. 3T3-L1 Supernatant	****
Medium vs. Adipoc. ( <i>ex vivo</i> ) Supernat	****
Medium vs. N-PEM Supernat.	ns
Medium vs. E0771 Supernat.	****
Medium vs. E0771/anti-CCL2	****
CCL2 (50 ng/mL) vs. CCL2 (50 ng/mL)/anti-CCL2	****
CCL2 (50 ng/mL) vs. 3T3-L1 Supernatant	****
CCL2 (50 ng/mL) vs. Adipoc. ( <i>ex vivo</i> ) Supernat	*
CCL2 (50 ng/mL) vs. N-PEM Supernat.	****
CCL2 (50 ng/mL) vs. E0771 Supernat.	ns
CCL2 (50 ng/mL) vs. E0771/anti-CCL2	ns
CCL2 (50 ng/mL)/anti-CCL2 vs. 3T3-L1 Supernatant	***
CCL2 (50 ng/mL)/anti-CCL2 vs. Adipoc. ( <i>ex vivo</i> ) Supernat	****
CCL2 (50 ng/mL)/anti-CCL2 vs. N-PEM Supernat.	ns
CCL2 (50 ng/mL)/anti-CCL2 vs. E0771 Supernat.	****
CCL2 (50 ng/mL)/anti-CCL2 vs. E0771/anti-CCL2	****
3T3-L1 Supernatant vs. Adipoc. ( <i>ex vivo</i> ) Supernat	****
3T3-L1 Supernatant vs. N-PEM Supernat.	****
3T3-L1 Supernatant vs. E0771 Supernat.	****
3T3-L1 Supernatant vs. E0771/anti-CCL2	****
Adipoc. ( <i>ex vivo</i> ) Supernat vs. N-PEM Supernat.	****
Adipoc. ( <i>ex vivo</i> ) Supernat vs. E0771 Supernat.	ns
Adipoc. ( <i>ex vivo</i> ) Supernat vs. E0771/anti-CCL2	ns
N-PEM Supernat. vs. E0771 Supernat.	****
N-PEM Supernat. vs. E0771/anti-CCL2	****
E0771 Supernat. vs. E0771/anti-CCL2	ns

**C2**

One way ANOVA: \*\*\*\*  $p < 0.0001$

Tukey's multiple comparisons.

ns  $P > 0.05$  \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$  \*\*\*\*  $p < 0.0001$

Comparison	Significance
Medium vs. CCL2 (50 ng/mL)	****
Medium vs. Adipoc./E0771	****
Medium vs. Adipoc./E0771/N-PEM	****
Medium vs. 3T3-L1/E0771/N-PEM	***
CCL2 (50 ng/mL) vs. Adipoc./E0771	ns
CCL2 (50 ng/mL) vs. Adipoc./E0771/N-PEM	ns
CCL2 (50 ng/mL) vs. 3T3-L1/E0771/N-PEM	ns
Adipoc./E0771 vs. Adipoc./E0771/N-PEM	ns
Adipoc./E0771 vs. 3T3-L1/E0771/N-PEM	*
Adipoc./E0771/N-PEM vs. 3T3-L1/E0771/N-PEM	ns

### C3

One way ANOVA: \*\*\*\*  $p < 0.0001$

Tukey's multiple comparisons.

ns  $p > 0.05$  \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$  \*\*\*\*  $p < 0.0001$

Comparison	Significance
Medium vs. CCL2 (50 ng/mL)	****
Medium vs. CCL2 (50 ng/mL)/anti-CCL2	*
Medium vs. Adipoc/E0771	****
Medium vs. Adipoc/E0771/anti-CCL2	****
Medium vs. Adipoc/E0771/inhib mix	****
Medium vs. Adipoc/E0771/N-PEM	****
Medium vs. Adipoc/E0771/N-PEM/anti-CCL2	****
Medium vs. Adipoc/E0771/ N-PEM/inhib mix	****
CCL2 (50 ng/mL) vs. CCL2 (50 ng/mL)/anti-CCL2	**
CCL2 (50 ng/mL) vs. Adipoc/E0771	ns
CCL2 (50 ng/mL) vs. Adipoc/E0771/anti-CCL2	ns
CCL2 (50 ng/mL) vs. Adipoc/E0771/inhib mix	ns
CCL2 (50 ng/mL) vs. Adipoc/E0771/N-PEM	ns
CCL2 (50 ng/mL) vs. Adipoc/E0771/N-PEM/anti-CCL2	ns
CCL2 (50 ng/mL) vs. Adipoc/E0771/ N-PEM/inhib mix	ns
CCL2 (50 ng/mL)/anti-CCL2 vs. Adipoc/E0771	***
CCL2 (50 ng/mL)/anti-CCL2 vs. Adipoc/E0771/anti-CCL2	**
CCL2 (50 ng/mL)/anti-CCL2 vs. Adipoc/E0771/inhib mix	**
CCL2 (50 ng/mL)/anti-CCL2 vs. Adipoc/E0771/N-PEM	***
CCL2 (50 ng/mL)/anti-CCL2 vs. Adipoc/E0771/ N-PEM/anti-CCL2	***
CCL2 (50 ng/mL)/anti-CCL2 vs. Adipoc/E0771/ N-PEM/inhib mix	**
Adipoc/E0771 vs. Adipoc/E0771/anti-CCL2	ns
Adipoc/E0771 vs. Adipoc/E0771/inhib mix	ns

Adipoc/E0771 vs. Adipoc/E0771/N-PEM	ns
Adipoc/E0771 vs. Adipoc/ E0771/N-PEM/anti-CCL2	ns
Adipoc/E0771 vs. Adipoc/E0771/ N-PEM/inhib mix	ns
Adipoc/E0771/anti-CCL2 vs. Adipoc/E0771/inhib mix	ns
Adipoc/E0771/anti-CCL2 vs. Adipoc/E0771/N-PEM	ns
Adipoc/E0771/anti-CCL2 vs. Adipoc/ E0771/ N-PEM/anti-CCL2	ns
Adipoc/E0771/anti-CCL2 vs. Adipoc/E0771/ N-PEM/inhib mix	ns
Adipoc/E0771/inhib mix vs. Adipoc/E0771/N-PEM	ns
Adipoc/E0771/inhib mix vs. Adipoc/ E0771/ N-PEM/anti-CCL2	ns
Adipoc/E0771/inhib mix vs. Adipoc/E0771/ N-PEM/inhib mix	ns
Adipoc/E0771/N-PEM vs. Adipoc/ E0771/ N-PEM/anti-CCL2	ns
Adipoc/E0771/N-PEM vs. Adipoc/E0771/ N-PEM/inhib mix	ns
Adipoc/ E0771/ N-PEM/anti-CCL2 vs. Adipoc/E0771/ N-PEM/inhib mix	ns

**Supplementary Tables of Figure 6.** Statistical analysis of leptin as a regulator of cytokine and chemokine expression in macrophages.

### **A: IL-12p70**

One way ANOVA: \*\*\*\*  $p < 0.0001$

Tukey's multiple comparisons.

ns  $p > 0.05$  \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$  \*\*\*\*  $p < 0.0001$

<b>Comparison</b>	<b>Significance</b>
Control vs. LPS	ns
Control vs. LPS+IFN	****
Control vs. Lep 10	ns
Control vs. LPS+Lep 10	ns
Control vs. LPS+IFN+Lep 10	**
Control vs. Lep 100	ns
Control vs. LPS+Lep 100	ns
Control vs. LPS+IFN+Lep 100	ns
LPS vs. LPS+IFN	****
LPS vs. Lep 10	ns
LPS vs. LPS+Lep 10	ns
LPS vs. LPS+IFN+Lep 10	**
LPS vs. Lep 100	ns
LPS vs. LPS+Lep 100	ns
LPS vs. LPS+IFN+Lep 100	ns
LPS+IFN vs. Lep 10	****
LPS+IFN vs. LPS+Lep 10	****
LPS+IFN vs. LPS+IFN+Lep 10	**
LPS+IFN vs. Lep 100	****
LPS+IFN vs. LPS+Lep 100	****

LPS+IFN vs. LPS+IFN+Lep 100	****
Lep 10 vs. LPS+Lep 10	ns
Lep 10 vs. LPS+IFN+Lep 10	**
Lep 10 vs. Lep 100	ns
Lep 10 vs. LPS+Lep 100	ns
Lep 10 vs. LPS+IFN+Lep 100	ns
LPS+Lep 10 vs. LPS+IFN+Lep 10	**
LPS+Lep 10 vs. Lep 100	ns
LPS+Lep 10 vs. LPS+Lep 100	ns
LPS+Lep 10 vs. LPS+IFN+Lep 100	ns
LPS+IFN+Lep 10 vs. Lep 100	**
LPS+IFN+Lep 10 vs. LPS+Lep 100	**
LPS+IFN+Lep 10 vs. LPS+IFN+Lep 100	*
Lep 100 vs. LPS+Lep 100	ns
Lep 100 vs. LPS+IFN+Lep 100	ns
LPS+Lep 100 vs. LPS+IFN+Lep 100	ns

**A: IL-10**

One way ANOVA: \*\*\*\*  $p < 0.0001$

Tukey's multiple comparisons.

ns  $p > 0.05$  \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$  \*\*\*\*  $p < 0.0001$

Comparison	Significance
Control vs. LPS	****
Control vs. LPS+IFN	ns
Control vs. Lep 10	ns
Control vs. LPS+Lep 10	****
Control vs. LPS+IFN+Lep 10	ns
Control vs. Lep 100	ns
Control vs. LPS+Lep 100	****
Control vs. LPS+IFN+Lep 100	ns
LPS vs. LPS+IFN	****
LPS vs. Lep 10	****
LPS vs. LPS+Lep 10	ns
LPS vs. LPS+IFN+Lep 10	****
LPS vs. Lep 100	****
LPS vs. LPS+Lep 100	ns
LPS vs. LPS+IFN+Lep 100	****
LPS+IFN vs. Lep 10	ns
LPS+IFN vs. LPS+Lep 10	****
LPS+IFN vs. LPS+IFN+Lep 10	ns
LPS+IFN vs. Lep 100	ns
LPS+IFN vs. LPS+Lep 100	****



LPS+IFN vs. LPS+IFN+Lep 100	ns
Lep 10 vs. LPS+Lep 10	****
Lep 10 vs. LPS+IFN+Lep 10	ns
Lep 10 vs. Lep 100	ns
Lep 10 vs. LPS+Lep 100	****
Lep 10 vs. LPS+IFN+Lep 100	ns
LPS+Lep 10 vs. LPS+IFN+Lep 10	****
LPS+Lep 10 vs. Lep 100	****
LPS+Lep 10 vs. LPS+Lep 100	ns
LPS+Lep 10 vs. LPS+IFN+Lep 100	****
LPS+IFN+Lep 10 vs. Lep 100	ns
LPS+IFN+Lep 10 vs. LPS+Lep 100	****
LPS+IFN+Lep 10 vs. LPS+IFN+Lep 100	ns
Lep 100 vs. LPS+Lep 100	****
Lep 100 vs. LPS+IFN+Lep 100	ns
LPS+Lep 100 vs. LPS+IFN+Lep 100	****

### **A: Nitric Oxide**

One way ANOVA: \*\*\*\*  $p < 0.0001$

Tukey's multiple comparisons.

ns  $p > 0.05$  \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$  \*\*\*\*  $p < 0.0001$

<b>Comparison</b>	<b>Significance</b>
Control vs. LPS	ns
Control vs. LPS+IFN	****
Control vs. Lep 10	ns
Control vs. LPS+Lep 10	ns
Control vs. LPS+IFN+Lep 10	****
Control vs. Lep 100	ns
Control vs. LPS+Lep 100	ns
Control vs. LPS+IFN+Lep 100	****
LPS vs. LPS+IFN	****
LPS vs. Lep 10	ns
LPS vs. LPS+Lep 10	ns
LPS vs. LPS+IFN+Lep 10	****
LPS vs. Lep 100	ns
LPS vs. LPS+Lep 100	ns
LPS vs. LPS+IFN+Lep 100	**
LPS+IFN vs. Lep 10	****
LPS+IFN vs. LPS+Lep 10	****
LPS+IFN vs. LPS+IFN+Lep 10	****
LPS+IFN vs. Lep 100	****
LPS+IFN vs. LPS+Lep 100	****

LPS+IFN vs. LPS+IFN+Lep 100	****
Lep 10 vs. LPS+Lep 10	ns
Lep 10 vs. LPS+IFN+Lep 10	****
Lep 10 vs. Lep 100	ns
Lep 10 vs. LPS+Lep 100	ns
Lep 10 vs. LPS+IFN+Lep 100	****
LPS+Lep 10 vs. LPS+IFN+Lep 10	****
LPS+Lep 10 vs. Lep 100	ns
LPS+Lep 10 vs. LPS+Lep 100	ns
LPS+Lep 10 vs. LPS+IFN+Lep 100	***
LPS+IFN+Lep 10 vs. Lep 100	****
LPS+IFN+Lep 10 vs. LPS+Lep 100	****
LPS+IFN+Lep 10 vs. LPS+IFN+Lep 100	**
Lep 100 vs. LPS+Lep 100	ns
Lep 100 vs. LPS+IFN+Lep 100	****
LPS+Lep 100 vs. LPS+IFN+Lep 100	****

**B: -LPS**

Two way ANOVA: \*\*\*\*  $p < 0.0001$

Tukey's multiple comparisons.

ns  $p > 0.05$  \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$  \*\*\*\*  $p < 0.0001$

Comparison	Significance
<b>G-CSF</b>	
N-PEM [Control] vs. N-PEM/ Leptin 20 ng/mL	ns
N-PEM [Control] vs. N-PEM/ Leptin 100 ng/mL	ns
N-PEM/ Leptin 20 ng/mL vs. N-PEM/ Leptin 100 ng/mL	ns
<b>IL-1a</b>	
N-PEM [Control] vs. N-PEM/ Leptin 20 ng/mL	ns
N-PEM [Control] vs. N-PEM/ Leptin 100 ng/mL	ns
N-PEM/ Leptin 20 ng/mL vs. N-PEM/ Leptin 100 ng/mL	ns
<b>IL-6</b>	
N-PEM [Control] vs. N-PEM/ Leptin 20 ng/mL	ns
N-PEM [Control] vs. N-PEM/ Leptin 100 ng/mL	ns
N-PEM/ Leptin 20 ng/mL vs. N-PEM/ Leptin 100 ng/mL	ns
<b>IP-10</b>	
N-PEM [Control] vs. N-PEM/ Leptin 20 ng/mL	ns
N-PEM [Control] vs. N-PEM/ Leptin 100 ng/mL	ns
N-PEM/ Leptin 20 ng/mL vs. N-PEM/ Leptin 100 ng/mL	ns
<b>KC</b>	
N-PEM [Control] vs. N-PEM/ Leptin 20 ng/mL	ns
N-PEM [Control] vs. N-PEM/ Leptin 100 ng/mL	ns
N-PEM/ Leptin 20 ng/mL vs. N-PEM/ Leptin 100 ng/mL	ns

<b>MCP-1</b>	
N-PEM [Control] vs. N-PEM/ Leptin 20 ng/mL	ns
N-PEM [Control] vs. N-PEM/ Leptin 100 ng/mL	ns
N-PEM/ Leptin 20 ng/mL vs. N-PEM/ Leptin 100 ng/mL	ns
<b>MIP-1a</b>	
N-PEM [Control] vs. N-PEM/ Leptin 20 ng/mL	ns
N-PEM [Control] vs. N-PEM/ Leptin 100 ng/mL	ns
N-PEM/ Leptin 20 ng/mL vs. N-PEM/ Leptin 100 ng/mL	ns
<b>MIP-1b</b>	
N-PEM [Control] vs. N-PEM/ Leptin 20 ng/mL	ns
N-PEM [Control] vs. N-PEM/ Leptin 100 ng/mL	ns
N-PEM/ Leptin 20 ng/mL vs. N-PEM/ Leptin 100 ng/mL	ns
<b>MIP-2</b>	
N-PEM [Control] vs. N-PEM/ Leptin 20 ng/mL	**
N-PEM [Control] vs. N-PEM/ Leptin 100 ng/mL	ns
N-PEM/ Leptin 20 ng/mL vs. N-PEM/ Leptin 100 ng/mL	ns
<b>VEGF</b>	
N-PEM [Control] vs. N-PEM/ Leptin 20 ng/mL	ns
N-PEM [Control] vs. N-PEM/ Leptin 100 ng/mL	ns
N-PEM/ Leptin 20 ng/mL vs. N-PEM/ Leptin 100 ng/mL	ns

**B: +LPS**

Two way ANOVA: \*\*\*\*  $p < 0.0001$

Tukey's multiple comparisons.

ns  $p > 0.05$  \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$  \*\*\*\*  $p < 0.0001$

Comparison	Significance
<b>G-CSF</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
<b>GM-CSF</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
<b>IFN-g</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
<b>IL-1a</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns

<b>IL-1b</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
<b>IL-5</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
<b>IL-6</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	*
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	***
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
<b>IL-9</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
<b>IL-10</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
<b>IL-12 (p70)</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
<b>IL-13</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
<b>IL-15</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
<b>IL-17</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
<b>IP-10</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
<b>LIF</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
<b>LIX</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns

N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
<b>MCP-1</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
<b>M-CSF</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
<b>MIG</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
<b>MIP-1a</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
<b>RANTES</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
<b>TNF-a</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	**
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
<b>VEGF</b>	
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 20 ng/mL	ns
N-PEM [LPS] vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns
N-PEM [LPS]/ Leptin 20 ng/mL vs. N-PEM [LPS]/ Leptin 100 ng/mL	ns

**Supplementary Tables of Figure 9.** Statistical analysis of *in vivo* experiments.

### C

Two way ANOVA: \*\*\*\*  $p < 0.0001$

Tukey's multiple comparisons.

ns  $p > 0.05$  \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$  \*\*\*\*  $p < 0.0001$

Comparison	Significance
<b>0</b>	
Lean (10% Fat Diet) vs. Resistant (33% Fat Diet)	ns
Lean (10% Fat Diet) vs. Overweight (33% Fat Diet)	ns
Lean (10% Fat Diet) vs. Obese (33% Fat Diet)	ns
Resistant (33% Fat Diet) vs. Overweight (33% Fat Diet)	ns



Resistant (33% Fat Diet) vs. Obese (33% Fat Diet)	****
Overweight (33% Fat Diet) vs. Obese (33% Fat Diet)	*
<b>8</b>	
Lean (10% Fat Diet) vs. Resistant (33% Fat Diet)	ns
Lean (10% Fat Diet) vs. Overweight (33% Fat Diet)	****
Lean (10% Fat Diet) vs. Obese (33% Fat Diet)	****
Resistant (33% Fat Diet) vs. Overweight (33% Fat Diet)	****
Resistant (33% Fat Diet) vs. Obese (33% Fat Diet)	****
Overweight (33% Fat Diet) vs. Obese (33% Fat Diet)	**

**D**

Two way ANOVA: \*\*  $p < 0.01$

Tukey’s multiple comparisons.

ns  $p > 0.05$  \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$  \*\*\*\*  $p < 0.0001$

Comparison	Significance
<b>0</b>	
Control-Lean vs. Control-Resistant	ns
Control-Lean vs. Control-OW	ns
Control-Lean vs. Control-OB	ns
Control-Resistant vs. Control-OW	ns
Control-Resistant vs. Control-OB	ns
Control-OW vs. Control-OB	ns
<b>1</b>	
Control-Lean vs. Control-Resistant	ns
Control-Lean vs. Control-OW	ns
Control-Lean vs. Control-OB	ns
Control-Resistant vs. Control-OW	ns
Control-Resistant vs. Control-OB	ns
Control-OW vs. Control-OB	ns
<b>2</b>	
Control-Lean vs. Control-Resistant	ns
Control-Lean vs. Control-OW	ns
Control-Lean vs. Control-OB	ns
Control-Resistant vs. Control-OW	ns
Control-Resistant vs. Control-OB	ns
Control-OW vs. Control-OB	ns
<b>3</b>	
Control-Lean vs. Control-Resistant	ns
Control-Lean vs. Control-OW	*
Control-Lean vs. Control-OB	ns
Control-Resistant vs. Control-OW	*
Control-Resistant vs. Control-OB	ns
Control-OW vs. Control-OB	ns
<b>4</b>	
Control-Lean vs. Control-Resistant	ns

Control-Lean vs. Control-OW	ns
Control-Lean vs. Control-OB	*
Control-Resistant vs. Control-OW	ns
Control-Resistant vs. Control-OB	ns
Control-OW vs. Control-OB	ns

**G**

Two way ANOVA: \*\*\*  $p < 0.001$

Sidak's's multiple comparisons.

ns  $p > 0.05$  \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$  \*\*\*\*  $p < 0.0001$

Comparison	Significance
<b>Untreated - Treated</b>	
Lean	ns
Resistant	ns
Overweight	ns
Obese	**

Tukey's multiple comparisons.

ns  $p > 0.05$  \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$  \*\*\*\*  $p < 0.0001$

Comparison	Significance
<b>Untreated</b>	
Lean vs. Resistant	ns
Lean vs. Overweight	ns
Lean vs. Obese	ns
Resistant vs. Overweight	ns
Resistant vs. Obese	*
Overweight vs. Obese	ns
<b>Treated</b>	
Lean vs. Resistant	ns
Lean vs. Overweight	ns
Lean vs. Obese	ns
Resistant vs. Overweight	ns
Resistant vs. Obese	ns
Overweight vs. Obese	ns