

# Microstructured Polymeric Fabrics Modulating the Paracrine Activity of Adipose-Derived Stem Cells

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## SUPPORTING INFORMATION

	Tukey's multiple comparisons test	p-value		Tukey's multiple comparisons test	p-value
Numerosity	5x5 vs 10x10	0.1331	Perimeter	5x5 vs 10x10	0.0356 (*)
	5x5 vs 20x20	0.2040		5x5 vs 20x20	<0.0001 (****)
	10x10 vs 20x20	0.8872		10x10 vs 20x20	<0.0001 (****)
	5x5 vs 10x10	0.4994		5x5 vs 10x10	0.9613
	5x5 vs 20x20	0.9452		5x5 vs 20x20	<0.0001 (****)
	10x10 vs 20x20	0.6328		10x10 vs 20x20	<0.0001 (****)
	5x5 vs 10x10	0.9454		5x5 vs 10x10	0.0382 (*)
	5x5 vs 20x20	0.9076		5x5 vs 20x20	<0.0001 (****)
	10x10 vs 20x20	0.7348		10x10 vs 20x20	<0.0001 (****)
Aspect Ratio	5x5 vs 10x10	0.0001 (**)		5x5 vs 10x10	0.0001 (****)
	5x5 vs 20x20	<0.0001 (****)		5x5 vs 20x20	0.0790
	10x10 vs 20x20	0.5820		10x10 vs 20x20	0.0008 (**)
	5x5 vs 10x10	<0.0001 (****)		5x5 vs 10x10	0.2256
	5x5 vs 20x20	0.0790		5x5 vs 20x20	0.9919
	10x10 vs 20x20	0.0008 (**)		10x10 vs 20x20	0.1310
	5x5 vs 10x10	0.2256			
	5x5 vs 20x20	0.9919			
	10x10 vs 20x20	0.1310			

Comparison among the the three PLGA fabrics at 24h  
Comparison among the the three PLGA fabrics at 48h  
Comparison among the the three PLGA fabrics at 72h

**Supporting Figure S1. Statistical Analysis for the stem cell spheroid growth as a function of time and for three different PLGA fabrics.** Differences are considered statistically significant when  $p < 0.05$  (\*),  $p < 0.01$  (\*\*), and  $p < 0.0001$  (\*\*\*\*).

2D	LIVE	Tukey's multiple comparisons test	p-value	2D collagen	LIVE	Tukey's multiple comparisons test	p-value
		24h vs 48h	0.2742			24h vs 48h	0.7550
		24h vs 72h	0.1675			24h vs 72h	0.0322 (*)
	APOPTOTIC	48h vs 72h	0.9407			48h vs 72h	0.1221
		24h vs 48h	0.2399		APOPTOTIC	24h vs 48h	0.8354
		24h vs 72h	0.1432			24h vs 72h	0.0895
		48h vs 72h	0.9387			48h vs 72h	0.0304 (*)
	DEAD	24h vs 48h	0.8383		DEAD	24h vs 48h	0.0011 (**)
		24h vs 72h	0.1539			24h vs 72h	0.1598
		48h vs 72h	0.3498			48h vs 72h	0.0507

  

5x5µm PLGA fabric	LIVE	Tukey's multiple comparisons test	p-value	10x10µm PLGA fabric	LIVE	Tukey's multiple comparisons test	p-value
		24h vs 48h	0.9433			24h vs 48h	0.8631
		24h vs 72h	0.9859			24h vs 72h	0.7167
	APOPTOTIC	48h vs 72h	0.8986			48h vs 72h	0.9611
		24h vs 48h	0.9606		APOPTOTIC	24h vs 48h	0.9533
		24h vs 72h	0.9951			24h vs 72h	0.6794
		48h vs 72h	0.9427			48h vs 72h	0.8452
	DEAD	24h vs 48h	0.8178		DEAD	24h vs 48h	0.6307
		24h vs 72h	0.7942			24h vs 72h	>0.9999
		48h vs 72h	0.4889			48h vs 72h	0.6242

  

20x20µm PLGA fabric	LIVE	Tukey's multiple comparisons test	p-value				
		24h vs 48h	0.8309				
		24h vs 72h	0.7608				
	APOPTOTIC	48h vs 72h	0.9918				
		24h vs 48h	0.7737				
		24h vs 72h	0.8457				
		48h vs 72h	0.9910				
	DEAD	24h vs 48h	0.5590				
		24h vs 72h	0.7943				
		48h vs 72h	0.2802				

  

% of live cells over time on different substrates
 % of apoptotic cells over time on different substrates
 % of dead cells over time on different substrates

**Supporting Figure S2. Statistical Analysis for the stem cell spheroid viability as a function of time and for three different PLGA fabrics.** Differences were considered statistically significant for  $p < 0.05$  (\*) and  $p < 0.01$  (\*\*).