

Supplementary Figure S1 a) [COOH] densities obtained by toluidine blue assay, b) Calibration curve of carboxyl group density plotted against absorbance at 633 nm



Supplementary Figure S2 The high mass resolution spectra of TOF-SIMS obtained from PET, PET-Activated, PET-BMP, PET-Spray1 with Activated pattern, PET-Spray1 with BMP-2-TAMRA pattern.

## Supplementary



Supplementary Figure S3. Fluorescence calibration curve of BMP-2-TAMRA (a) and RGD-TAMRA (b). The fluorescence intensity is expressed as a function of the peptide density.

0	2W-OPN	MMSC on class in cormal medium	UNISC on class in reterioratic medium	OB co class	MMSC on PET-MIX1 is normal medium	MMSC on PET-MIX2 is sourced medium	UNISC on DET, Socar2 in promal medium	LEVISC on PET-Secard in accord mediate
а	HMSC on plass in normal medium							
	UNSC on class in or teoperic medium	N						
	OB so share							
	UNCC on DCT MIXE is second motion							
	HMSC on PET-MIX1 in normal medium		N					
	HMSC on PET-MIX2 in normal medium		N		N			
	HMSC on PET-Spray2 in normal medium	•	N	•	N	N		
	HMSC on PET-Spray3 in normal medium		N	N				
h	2W-E11	HMISC on glass in normal medium	HM/SC on glass in osteogenic medium	OB on glass	HMSC on PET-MIX1 in normal medium	HMSC on PET-MIX2 in normal medium	HMSC on PET-Spray2 in rormal medium	HMISC on PET-Spray3 in normal medium
	HMSC on glass in normal medium							
	HMSC on glass in osteogenic medium	N						
	OB on glass	N	N					
	HMSC on PET-MIX1 in normal medium	N	N	N				
	HMSC on PET-MIX2 in normal medium	N	N	N	N			
	ALC: DET Course in a second second second							
	HM 9G ON PET-spray2 in normal medium							
	HM SC on PET-Spray3 in normal medium						N	
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С	AM - 9-0 1	minud on gass in normal medium	means on gass in osteogenic medium	OB on glass	more do PET-MIX 1 in normal medium	manay on PET-MIX2 in normal medium	mrov or PET-Spray2 in formal medium	rense on PET-Spray3 in normal medium
	HMSC on gass in normal medium							
	HMSC on glass in osteogenic medium	N						
	OB on glass	N	N					
	HMSC on PET-MIX1 in normal medium	N	N	N				
	HMSC on PET-MIX2 in normal medium			*				
	HMSC on PET-Sorav2 in normal martism							
	MUSC on RET. Source3, in normal medium					N		
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a	UNION of allow in another lines	Hindy on gass in normal medium	Histor on gess in os levgeno meatan	OB OT gass	Philag of PETrata Tarita menan	Hardy on PETHING Internet measure	Hindo on PETrapraya in formal medion	Hindo of PETrapaya momentedan
	His oc on gass in normal medium							
	HMSC on glass in osteogenic medium	N						
	OB on glass	•	•					
	HMSC on PET-MIX1 in normal medium		•					
	HMSC on PET-MIX2 in normal medium			•				
	HMSC on PET-Soray2 in normal medium			•				
	HMSC on PET-Soray3 in normal medium							
~	3W-OPN	HMSC on class in rormal medium	HMSC on plass in osteopenic medium	OB on class	HMSC on PET-MIX1 in osteogenic medium	HMSC on PET-MO(2) in osteoperic medium	HMSC on PET-Sprav2 in osteopenio medium	HMSC on PET-Sprav2 in osteopenic medium
е	HMSC on class in normal medium							
	UNSC on class in or teoperic medium							
	OB on olars		N					
	ULCC as DET MIXE is astronalis and im			N				
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	HM OU ON PETIMINZ IN IS SEODENIC INEGUM		N	N				
	HMSC on PET-Spray2 in osteogenic medium	•	N	N		N		
	HMSC on PET-Spray3 in osteogenic medium							
f	3W-E11	HMSC on glass in normal medium	H8/ISC on glass in osteogenic medium	OB on glass	HMSC on PET-MIX1 in osteogenic medium	HMSC on PET-MOC in osteogenic medium	HMSC on PET-Spray2 in osteogenic medium	HMSC on PET-Spray3 in osteogenic medium
	HMSC on glass in normal medium							
	HMSC on glass in osteogenic medium	N						
	OB on glass	N	N					
	HMSC on PET-MIX1 in osteogenic medium		N					
	HMSC on PET-MIX2 in osteogenic medium				N			
	MUSC on PET. Source? in outpopedia medium							
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	AW 8087	WHERE an observing second second and	MARK on shore is an increasing and increasing	OB er elus	MURC on BET 185/1 is extended in modium.	MARC BET 185/7 is subscription of the	ALL	HARD IN DET BALL & In a transmis much me
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9	His su on gass in normal medium							
	HM SC on glass in osteogenic medium	N						
	OB on glass	N	N					
	HMBC on PET-MIX1 in a teogenic medium	N	N	N				
	HMSC on PET-MIX2 in osteogenia medium	N	N	N	N			
	HMSC on PET-Soray2 in cateopenic medium				N	N		
	HMSC on PET-Spray3 in osteopenic medium					-		
							-	
1-	3W-DHP1	HMSC on glass in normal medium	HM SC on glass in osteogenio medium	OB on plass	HMSC on PET-MIX1 in osteogenic medium	HMSC on PET-MOQ in osteogenic medium	HMSC on PET-Spray2 in osteoperio medium	HM SC on PET-Spray3 in osteopenic medium
n	HM SC on glass in normal medium							
	HM SC on glass in osteogenic medium							
	OB on glass	N						
	HM SC on PET-M IX1 in osteogenic medium							
	HM SC on PET-MIX2 in osteogenic medium	•		•	N			
	HM SC on PET-Spray2 in osteogenic medium					N		
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Supplementary Figure S4. Statistical analysis of several differentiation markers a) OPN, b) E11, c) DMP1, d) SOST, after 2 w; and e) OPN, f) E11, g) DMP1, h) SOST, after 3 w. The statistical analysis was done by one-way analysis of variance (ANOVA) and Tukey's test for multiple comparisons. P values are represented as following \* 0.05,). N represented the mean difference was not significant at the 0.05 level.



Supplementary Figure S5. Statistical analysis of several cell morphology a) aspect ratio, b) circularity, c) anisotropy, after 2 w; and d) aspect ratio, e) circularity, f) anisotropy, after 3 w. The statistical analysis was done by one-way analysis of variance (ANOVA) and Tukey's test for multiple comparisons. P values are represented as following \* 0.05,). N represented the mean difference was not significant at the 0.05 level.