

Injectable Alginate-Peptide Composite Hydrogel as a Scaffold for Bone Tissue Regeneration

Moumita Ghosh [†], Michal Halperin-Sternfeld [†], Itzhak Grinberg and Lihi Adler-Abramovich ^{*}

Department of Oral Biology, The Goldschleger School of Dental Medicine, Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv 6997801, Israel; moumita.ghosh1986@gmail.com (M.G.); michal4@mail.tau.ac.il (M.H.-S.); tzakhi@gmail.com (I.G.)

^{*} Correspondence: lihiA@tauex.tau.ac.il; Tel.: +972-3-640-7252

[†] Those authors contributed equally to this work.

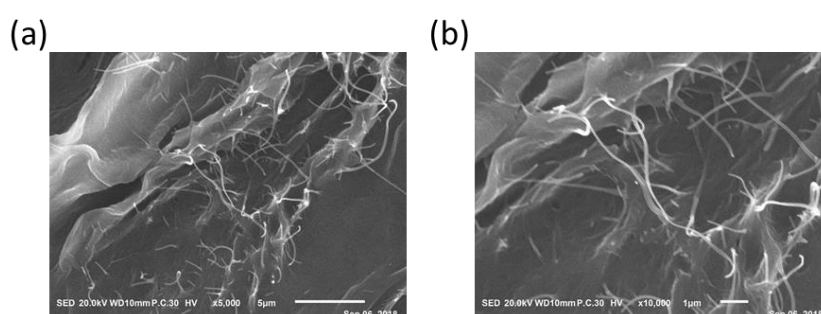


Figure S1. Scanning electron microscopy micrographs of Alginate/FmocFF composite hydrogel (a) scale bar = 5 μm , (b) scale bar = 1 μm .

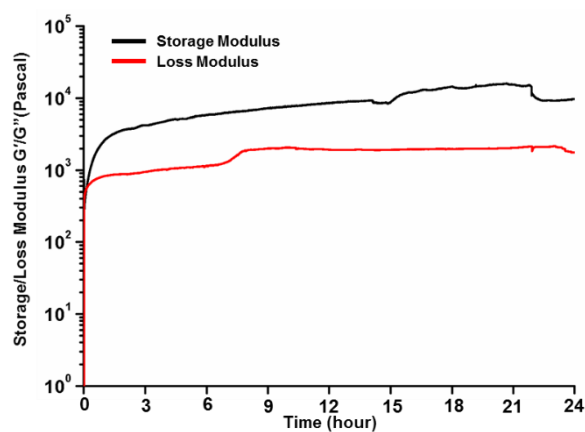


Figure S2. *In situ* time sweep oscillation measurements of Alginate/FmocFF composite hydrogel showing the storage modulus (G') and loss modulus (G'').

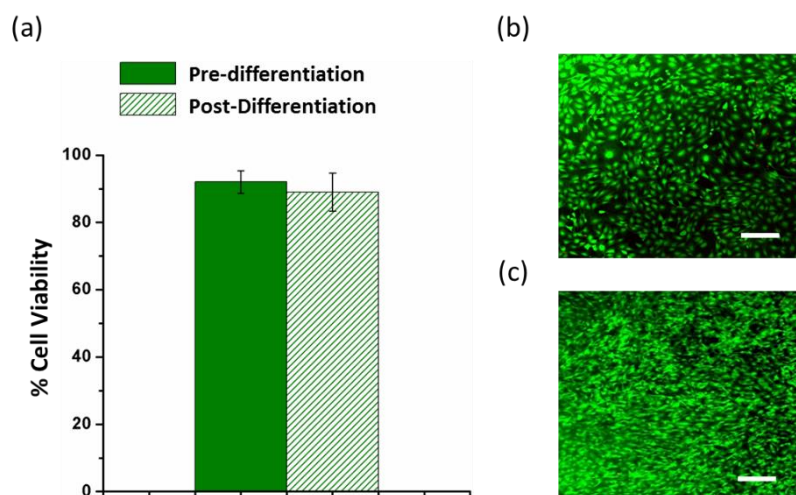


Figure S3. (a) Viability of MC3T3-E1 preosteoblast cells 3 days after seeding on the Alginate/FmocFF composite hydrogel and following 14 days of osteogenic differentiation. (b-c) Live/dead staining assays of MC3T3-E1 cells incubated for (b) 3 days on the composite hydrogel and (c) following 14 days of osteogenic differentiation. Scale bar = 500 μ m.

Gene name	Primer sequences (5'-3')
Actin (House keeping gene)	F: 5'-CCGTCAGGCAGCTCATAGCTC-3' R: 5'-GTCACCCACACTGTGCCCATC-3'
Alkaline phosphatase (ALP)	F: 5'- GGAATACGAACTGGATGAGAAGG-3' R: 5'- GGTTCAGACATAGTGGAATG-3'
Osteocalcein (OC)	F: 5'-AGGACCATCTTTCTGCTCACT-3' R: 5'-GCCGTTGTAGGCGGTCTTCA-3'
RUNX2	F: 5'-TGCACCTACCAGCCTCACCATAC-3' R: 5'-GACAGCGACTTCATTCGACTTCC-3'
Collagen 1 (Col 1)	F: 5'-TGTCGTGGTCTCAGGGTAG-3' R: 5'- TTGTCGTAGCAGGGTCTTTC-3'
Bone morphogenic protein 2 (BMP2)	F: 5'-GCCGGTGTCCCTAATCTTT-3' R: 5'- AGCCCTGTCTTATTCATCCA-3'

Table S1. Primers used for PCR amplification.