P-C-456

EFFECT OF SURFACE PEG CONTENT ON THE VIABILITY AND CELL ADHESION IN PLA/PEG POROUS SCAFFOLDS

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Biomaterials are usualy used as carriers whith the function of synthetic mimics of the extracellular matrix. In other studies [1] we have demonstrated the key-role played by poly(ethylenglycol) (PEG) in the viability and cell adhesion of SK-Hep1 cells. In the present work, the PEG amount on the surface of Polylactide-based three-dimensional scaffolds is optimized by means of the processing. In particular, porous three-dimensional Polylactide-based structures with various architectures of pores, were obtained by melt-blending an inorganic crystalline phase (NaCl) with the polymeric phases, followed by a water-soluble phases leaching. The surface content of PEG is controlled by adopting proper optimized conditions of water leaching. The results obtained by XPS and TOF-SIMS characterizations confirm the possibility to control the amount of superficial PEG in and its topographical distribution.