

BIOCOMPOSITES FUNCTIONALIZED WITH EXTRAPALLIAL FLUID PROTEIN FOR BONE TISSUE ENGINEERING

Miguel Angel Rojas Yañez¹, Claudia Lucia Vargas Requena², Claudia Alejandra Rodríguez González¹, Florinda Jimenez Vega², Laura Elizabeth Valencia Gómez¹, Imelda Armendáriz¹

¹Universidad Autónoma de Ciudad Juárez, Física y Matemáticas, Mexico. ²Universidad Autónoma de Ciudad Juárez, Instituto de Ciencias Biomédicas, Mexico.

Polycaprolactone (PCL) and chitosan functionalized with extrapallial fluid protein *Mytilus californiensis* (EP) were used to fabricate biodegradable porous scaffolds for applications in bone tissue engineering by thermally induced phase separation technique. The influence of several parameters in the morphology and mechanical properties of the scaffolds, as polymer concentration and quenching temperature were investigated. Scanning Electron Microscopy (SEM), fourier transform infrared spectroscopy (FTIR), thermogravimetric analysis (TGA), Differential Scanning Calorimetry (DSC) and mechanical properties were used to characterize the resulting bicomposites. Also, in vitro enzymatic biodegradation and bioactivity tests were used to evaluate the bicomposite degradation as well as the viability to form hydroxyapatite. Results showed that these bicomposites are suitable for biological applications.

Keywords: Extrapallial fluid protein, chitosan, polycaprolactone

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Presenting author's email: al160909@alumnos.uacj.mx