

METHOD FOR PREPARING BIOCOMPATIBLE SCAFFOLD AND SCAFFOLD PREPARED THEREFROM

ABSTRACT

The present invention provides a method for preparing three-dimensional, biodegradable and biocompatible, porous, polymeric scaffolds for tissue engineering, which comprises the steps of: (i) dissolving a polymer in an organic solvent to prepare a polymeric solution; (ii) mixing an effervescent salt in the resulting polymeric solution to give a polymer/salt/organic solvent mixed gel; (iii) removing the organic solvent from the polymer/salt/organic solvent mixed gel; and (iv) immersing the gel in acidic solution to render the salt to effervesce to yield a polymeric scaffold. The scaffold of this invention is so porous and interconnective among pores as to accommodate and culture cells isolated from the tissues to be cultured. The method of this invention has several advantages of: (i) easily shaping the cell culture matrix in desirable forms with the gel and (ii) controlling the pore size and porosity of the three-dimensional porous, polymeric scaffolds by controlling the amount and size of the effervescent salts and the concentration of the acidic aqueous solutions with which the effervescence and leaching-off of the salts are induced.

Figure of drawings for publication: Fig. 2(a)



162162



G000002