

ABSTRACT

ELECTRO-FLUID JETTING DEVICE AND METHOD FOR PRINTING A
THREE-DIMENSIONAL BIOLOGICAL SCAFFOLD

A device for printing a three-dimensional biological scaffold and a method thereof are disclosed. The printing method includes the following steps: adding a polycaprolactone (PCL) solution mixed in glacial acetic acid into a solution supply system; setting up a moving speed and a moving path of the motion platform during printing by a motion control system, adjusting a distance from the spray needle to a polished silicon crystal substrate, and setting up an injection rate of a solution; turning on a power source and applying a voltage between the spray needle and a carrier. The three-dimensional biological scaffold which has a microstructure with various spiral structures and is printed by the method has higher strength, greater contact area and porosity, and thus is more favorable for cell adhesion during cell inoculation and differentiation and proliferation during cell culture.

FIG. 1