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(54) Title: FIBROUS SUBSTRATES FOR CELL PROPAGATION AND DIFFERENTIATION

(57) Abstract: The present invention relates to a method of releasably encapsulating pluripotent embryonic stem cells in a degradable continuous polyionic fiber for tissue culture, wherein the encapsulated embryonic stem cells are able to maintain a pluripotent phenotype in tissue culture; the method comprising (a) contacting an aqueous solution of a polyanion with an aqueous solution of a polycation to form an interface between the aqueous solution of polyanion and the aqueous solution of polycation, and wherein the aqueous solution of polyanion or the aqueous solution of polycation or both the aqueous solution of polyanion and the aqueous solution of polycation comprises a suspension of pluripotent embryonic stem cells; (b) drawing a continuous polyionic fiber which comprises encapsulated pluripotent embryonic stem cells from the interface; (c) passing the continuous polyionic fiber comprising encapsulated pluripotent embryonic stem cells in a continuous process through a solution which reduces secondary complexation of the components of the polyionic fiber.

