

Title (en)
TISSUE ENGINEERING DEVICE AND CONSTRUCTION OF VASCULARIZED DERMIS

Title (de)
GEWEBEZÜCHTUNGSVORRICHTUNG UND KONSTRUKTION VON VASKULARISIERTER HAUT

Title (fr)
DISPOSITIF DE GÉNIE TISSULAIRE ET CONSTRUCTION DE DERME VASCULARISÉ

Publication
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Application
EP 13749912 A 20130213

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Abstract (en)
[origin: WO2013123049A1] An Inkjet printing method, system, and computer-usable tangible storage device to print cells and biomaterials for three-dimensional cellular scaffolds and engineered skin grafts are disclosed. The process simultaneously deposits living cells, nutrients, growth factors, therapeutic drugs along with biomaterial scaffolds at the right time and location. This technology can also be used for the microvasculature fabrication using appropriate human microvascular endothelial cells and fibrin to form the microvasculature. When printing human microvascular endothelial cells in conjunction with the fibrin, the cells aligned themselves inside the channels and proliferated to form confluent linings. The 3D tubular structure was also found in the printed patterns. Simultaneously printing biological materials to form a three-dimensional cellular scaffold promotes human microvascular endothelial cell proliferation and microvasculature formation.

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Citation (search report)
• [X] US 2011250688 A1 20111013 - HASAN SYED K [US]
• [X] MIRONOV V ET AL: "Organ printing: Tissue spheroids as building blocks", BIOMATERIALS, ELSEVIER SCIENCE PUBLISHERS BV., BARKING, GB, vol. 30, no. 12, 1 April 2009 (2009-04-01), pages 2164 - 2174, XP025990541, ISSN: 0142-9612, [retrieved on 20090126], DOI: 10.1016/J.BIOMATERIALS.2008.12.084
• See references of WO 2013123049A1

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