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A novel strategy for creating humanized extra-corporeal bio-artificial liver

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Demand of donor organs for transplantation in treatment of organ failure is increasing. Shortage of donor organs for transplantation and appropriate strategies for the treatment of end stage liver diseases desires new boost up for the development of novel strategies. Attempts are being made to use xenogenic organs by genetic manipulation but the organ rejection against human always has been a major challenge for the survival of the graft. However, the available strategies for generating the organ/tissue scaffolds limit its application due to the absence of complete 3D-organ architecture, mechanical strength, long-term cell survival, and vascularization. Repopulation of whole decellularized organ scaffolds using stem cells has added a new dimension for creating new bioengineered organs. This article focuses on the major aspects of organ scaffold generation and repopulation of different types of whole decellularized organ scaffolds using stem cells for the functional benefit and their confines.

Biography

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