

Original

# Umbilical cord blood-derived cells for tissue repair

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Hematopoietic tissue-derived cells, including stem cells, have been shown to generate solid organ tissue-specific cells. Besides bone marrow and peripheral blood, umbilical cord blood (UCB) has the advantage of being an easily accessible stem cell source provided as a banked cell product. Using the xenogeneic human into NOD/SCID mouse stem cell transplant model preliminary data suggest UCB-derived tissue-specific cells generated in liver, pancreas, CNS and endothelium. In a clinical sex-mismatched UCB transplant setting Y-positive, UCB-derived gastrointestinal epithelial cells and CNS-specific cells have been identified in female patients. The potential therapeutic use of UCB cells for tissue repair is, however, limited by a low total stem cell number available and by HLA-disparity.

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