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(54) **LIVER CELL CLONES FOR USE IN EXTRACORPOREAL LIVER-ASSIST DEVICE**

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(58) **Field of Search** 435/325, 370, 435/395, 284.1, 289.1, 1.1; 424/93.7

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(57) **ABSTRACT**

A blood perfusion device or apparatus that is used for bioartificial liver support. Human hepatocyte lines established from normal regenerating liver tissue and modulated in toxin-challenging conditions are provided. These functional hepatocytes exhibit extraordinarily enhanced detoxification functions, which are characterized by the elevated glutathione content and glutathione S-transferase activity. A bioreactor is constructed with the functional hepatocytes for bioartificial liver support system, which includes perfusion inlets and perfusion outlets, a containment vessel, a centrifugal pump and macroporous microcarriers where the functional hepatocytes are grown.

12 Claims, 2 Drawing Sheets