

Title (en)

THREE-DIMENSIONAL HUMAN CELL CULTURES ON CARDIAC VALVE FRAMEWORKS AND THEIR USES

Title (de)

DREIDIMENSIONALE KULTUREN VON MENSCHLICHEN ZELLEN AUF HERZKLAPPENGERÜST UND IHREVERWENDUNG

Title (fr)

CULTURES TRIDIMENSIONNELLES DE CELLULES HUMAINES SUR DES STRUCTURES DE VALVULES CARDIAQUES, ET LEURS UTILISATIONS

Publication

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Application

EP 95933062 A 19950908

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Abstract (en)

[origin: WO9608213A1] The present invention relates to a method of growing a variety of different cells and tissues in three-dimensional cultures in vitro using human fibroblasts in the culture medium. In accordance with the invention, stromal cells, including but not limited to human dermal and cardiac fibroblasts, are inoculated and grown on a three-dimensional scaffold or framework. The human fibroblasts secrete human matrix proteins to supplement and replace the existing porcine matrix composed of decellularized heart valves or aortic walls and leaflets formed into three-dimensional constructs having interstitial spaces bridged by the stromal cells. The living stromal tissue so formed provides the support, growth factors, and regulatory factors necessary to sustain long-term viability and proliferation of cells in culture and/or cultures implanted in vivo. When grown in this three-dimensional system, the proliferating cells mature and segregate properly to form components of tissues analogous to counterparts in vivo.

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Citation (search report)

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