ABSTRACT

METHODS AND USES FOR EX VIVO TISSUE CULTURE SYSTEMS

The technology described herein is directed to methods and devices that can be used to induce functional organ structures to form within an implantation device by implanting it in vivo within the body of a living animal, and allowing cells and tissues to impregnate the implantation device and establish normal microenvironmental architecture and tissue-tissue interfaces. Then the contained cells and tissues can be surgically removed intact and either transplanted into another animal or maintained ex vivo by perfusing it through one or more of the fluid channels with medium and/or gases necessary for cell survival.

Figure 20A