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(54) Title: THREE-DIMENSIONAL BIOPROCESSOR

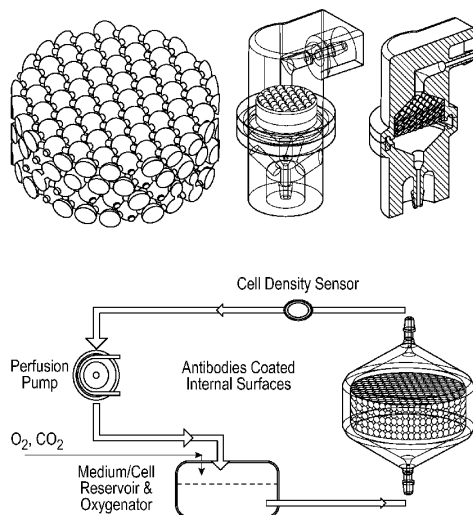


Fig. 4

(57) Abstract: Described herein is a beads-free bioprocessor as an automated and cost-effective T cell processing and manufacturing platform. T cells are a core component in CAR T cell therapies for cancer treatment, but are difficult to manufacture to scale in clinically relevant quantities. The 3D bioprocessor provides an alternative device that is scalable, beads-free, easy-to-use, and cost-effective for using CAR T cell therapy in cancer immunotherapy. Besides CAR T cell application, this platform technology has potential for many other applications such as cancer cell isolation.

[Continued on next page]

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