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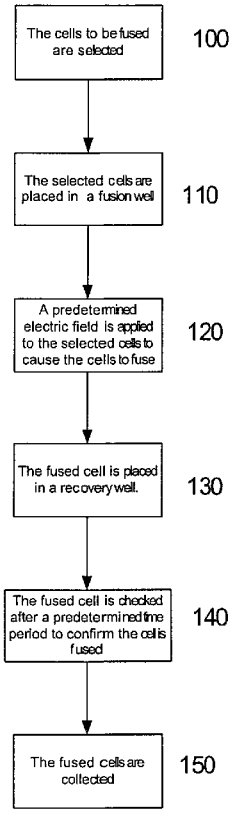
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(54) Title: A METHOD OF CELL THERAPY USING FUSED CELL HYBRIDS



(57) Abstract: The present invention relates generally to the field of tissue engineering and more particularly to a method for generating tissue suitable for use in tissue replacement and/or tissue rejuvenation therapy and/or as a source of cell-derived therapeutic or diagnostic agents including proteins and hormones. Even more particularly, the present invention contemplates the use of cell fusion techniques involving single cell, mini-bulk or macro-bulk cell fusion to generate tissue or cells useful for tissue replacement and/or tissue rejuvenation therapy or a range of organs or areas of the body. The resulting tissue or cells may also secrete or generate a range of cytokines, enzymes, hormones and the like which have improved or more efficacious properties relative to analogous molecules produced from non-fused cells. The present invention further provides an apparatus having aspects controlled by data processing means which facilitates the fusion of a pair of cells. Of the pair of cells, at least one of the cells in the pair may be a mature cell or is capable of differentiating or developing into a mature cell. The subject invention further provides isolated molecules such as cytokines, receptors, antibodies, hormones, heat shock proteins, enzymes, and glycoproteins such as mucins, lectins and heparan sulfates derived from fused cells. These molecules may be characterized by having altered glycosylation patterns, altered post-translational modifications, greater activity, being more efficacious or being more stable relative to analogous molecules from non-fused cells. The present invention further provides novel cell fusates or cell hybrids having a pattern of cell surface markers unique relative to the at least two cells which fuse together to generate the cell. These cell markers are useful in selecting particular cell hybrids and as proprietary tags.

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