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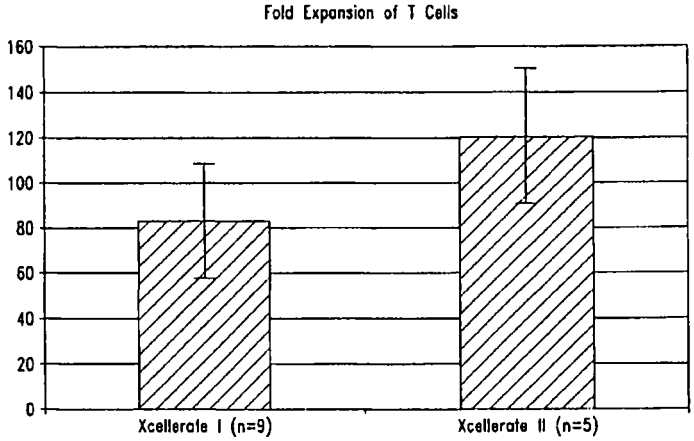
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(54) Title: SIMULTANEOUS STIMULATION AND CONCENTRATION OF CELLS



(57) Abstract: The present invention relates generally to methods for stimulating cells, and more particularly, to a novel method to concentrate and stimulate cells that maximizes stimulation and/or proliferation of such cells. In the various embodiments, cells are stimulated and concentrated with a surface yielding enhanced proliferation, cell signal transduction, and/or cell surface moiety aggregation. In certain aspects methods for stimulating a population of cells such as T-cells, by simultaneous concentration and cell surface moiety ligation are provided by contacting the population of cells with a surface, that has attached thereto one or more agents that ligate a cell surface moiety and applying a force that predominantly drives cell concentration and cell surface moiety ligation, thereby inducing cell stimulation, cell surface moiety aggregation, and/or receptor signaling enhancement. Also provided are methods for producing phenotypically tailored cells, including T-cells for the use in diagnostics, drug discovery, and the treatment of a variety of indications, including cancer, viral infections, and immune related disorders. Compositions of cells having specific phenotypic properties produced by these processes are further provided.

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