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(54) **HEMANGIO COLONY FORMING CELLS AND NON-ENGRAFTING HEMANGIO CELLS**

(75) Inventors: **Robert Lanza**, Clinton, MA (US); **Shi-Jiang Lu**, Shrewsbury, MA (US)

(73) Assignee: **Ocata Therapeutics, Inc.**, Marlborough, MA (US)

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(58) **Field of Classification Search**
None
See application file for complete search history.

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Primary Examiner — Karen Cochrane Carlson
Assistant Examiner — Natalie Moss
(74) *Attorney, Agent, or Firm* — Nixon Peabody LLP; Stephen W. Chen

(57) **ABSTRACT**

Methods of generating and expanding human hemangio-colony forming cells and non-engrafting hemangio cells in vitro and methods of expanding and using such cells are disclosed. The methods permit the production of large numbers of hemangio-colony forming cells, non-engrafting hemangio cells as well as derivative cells, such as hematopoietic and endothelial cells. The cells obtained by the methods disclosed may be used for a variety of research, clinical, and therapeutic applications. Human non-engrafting hemangio cells are a novel progenitor cell population that is related to but distinct from the hemangioblast and human hemangio-colony forming cells. The invention also provides compositions, preparations, and solutions comprising hemangio-colony forming cells, non-engrafting hemangio cells or cells differentiated therefrom. The compositions, preparations, and solutions include cryopreserved preparations and substantially purified preparations, as well as mixed compositions formulated in combination with related hemangioblast progenitor cell types that can engraft into the bone marrow.

14 Claims, 12 Drawing Sheets