



Endothelial Cells Derived from Human Embryonic Stem Cells

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Inventors: Dan Kaufman, Rachel Lewis, Robert Auerbach

The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a simple and efficient method of inducing human embryonic stem cells to differentiate into endothelial cells.

Overview

Although techniques exist for differentiating human embryonic stem cells (ES cells) into a number of specific cell types, no method currently exists for directing ES cell cultures to become endothelial cells, which line blood and lymphatic vessels and form capillaries.

The Invention

UW-Madison researchers have developed a simple and efficient method of inducing human embryonic stem cells to differentiate into a relatively homogenous population of endothelial cells. The method involves culturing ES cells in a commercially available medium that supports the growth of endothelial cells. The resulting ES-derived endothelial cells have the general morphological characteristics and cell surface markers of endothelial cells. They are capable of inducing and participating in blood vessel formation when transplanted into tissue *in vivo*.

Applications

- Allows direct differentiation of ES cells into endothelial cells
- May lead to new treatments for heart attack or stroke
- Useful for studying the process of blood vessel formation
- May lead to new targets for inhibiting blood vessel formation in tumor growth

Key Benefits

- Simple and efficient
- Reproducible
- Results in a relatively uniform population of endothelial cells

Tech Fields

- [Drug Delivery : Other drug delivery technologies](#)
- [Pluripotent Stem Cells : Differentiation](#)
- [Research Tools : Animal & disease models](#)

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| info@warf.org | 608.960.9850