Therapeutics & Vaccines

IDENTIFICATION AND APPLICATION OF SELECTIVE CELL SURFACE MARKERS AND ADDITIONAL METHODS FOR HUMAN RED/GREEN CONE PHOTORECEPTOR PRECURSOR ENRICHMENT

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Inventors: David Gamm, Praveen Joseph Susai Manickam, Michael Phillips, Elizabeth Capowski

The Invention

UW-Madison researchers have discovered a cell-surface marker (CD166) that can be used to distinguish (and purify) cells that are immature (early) cone photoreceptor precursor cells (CPPs), which will later differentiate into red/green cones. The inventors utilized a dual reporter (THRB2/TdTomato & NRL/eGFP) ESC line to develop 3D retinal organoids; the expression of GFP under the NRL promoter indicates rod precursors, whereas the expression of tdTomato under the THRB2 promoter indicates cone precursors. By performing RNAseq analyses of these cells at several culture time points, the inventors discovered that a cell surface marker, CD166, is transiently present in immature (early) cone photoreceptor precursor cells (CPPs).

Additional Information

For More Information About the Inventors

- David Gamm

Tech Fields

- Pluripotent Stem Cells : Differentiation
- Therapeutics & Vaccines : Biologics
- Therapeutics & Vaccines : Ocular

For current licensing status, please contact Andy DeTienne at adetienne@warf.org or 608-960-9857