【Noteworthy Patent Introduction #4】

Method for Inducing Differentiation of Alveolar Epithelial Cells

Abstract

Invented is an efficient method for producing alveolar epithelial type II (AT2) cells from iPS cells, which enables long-term expansion of isolated AT2 cells by 3D coculture. Those alveolar organoids are applicable for drug discovery.

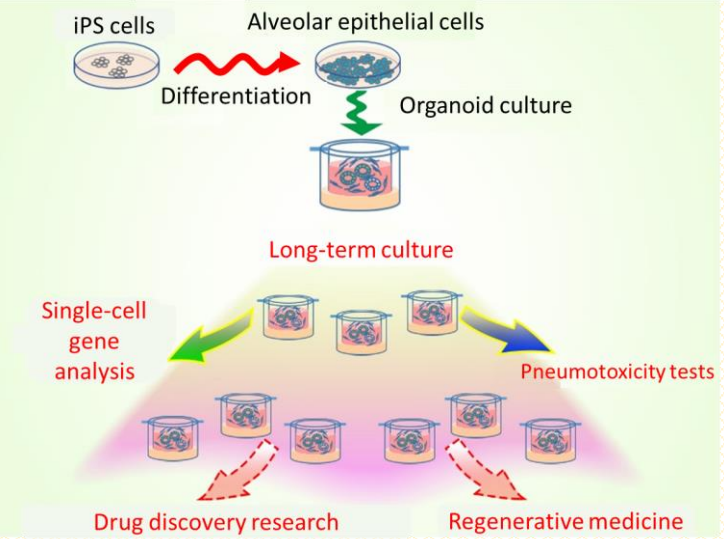
Background

Lung tissue is one of the most complex organs, and there have been difficulties in production and long-term expansion of alveolar epithelial cells derived from iPS cells.

Advantage

- The invention enables efficient production of AT2 cells from hiPSCs through differentiation into alveolar progenitor cells via ventral anterior foregut cells, isolating them using CPM as a surface marker, and then subjecting to 3D coculture with human fetal lung fibroblasts.
- Derived AT2 cells are competent for long-term stable expansion by 3D coculture and can be subjected to organoid formation, thus enabling studies on pathogenesis and therapy of life-threatening lung disorders, regenerative medicine, drug toxicity, etc.

An overview and application possibilities of the invention



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