Enhancing iPSC Reprogramming Efficiency

Tech ID: 34203 / UC Case 2023-722-0

BRIEF DESCRIPTION

A revolutionary method for improving the efficiency and quality of reprogramming adult cells into stem cells or other therapeutically relevant cell types via adhesome gene manipulation.

FULL DESCRIPTION

This technology addresses the inefficiency and heterogeneity of reprogramming adult or somatic cells into induced

pluripotent stem cells (iPSCs) by manipulating genes related to cell adhesion and signaling. By assessing and

modulating the expression of adhesome genes during reprogramming, this approach significantly enhances iPSC

formation efficiency, leading to the generation of cell lines with desirable molecular characteristics for therapeutic and

diagnostic applications.

SUGGESTED USES

- Development of more efficient and reliable cell therapies.
- Creation of iPSC-based models for disease research and drug discovery.
- Enhancement of diagnostic applications through iPSCs with tailored molecular characteristics.

ADVANTAGES

- Significantly increases reprogramming efficiency by 27-fold through adhesome gene manipulation.
- Produces iPSCs with reproducible molecular properties, enhancing their differentiation potential for specific therapeutic applications.
- Enables the derivation of iPSCs from a wider range of cell types by altering cell-environment interactions.
- Improves the stability of cell types on the trajectory to reprogramming, leading to more predictable and controlled cell fate outcomes

PATENT STATUS

Patent Pending

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OTHER INFORMATION

CATEGORIZED AS

- **Medical**
  - Diagnostics
  - Research Tools
  - Stem Cell
  - Therapeutics
- **Engineering**
  - Other

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