Technology information form

Technology title
Characterization and identification of pulmonary stem cells as a target for viral infection
Brief description of technology and application
The technology involves the characterization and identification of pulmonary stem cells as a target for viral infection. Application includes respiratory infection cell model, respiratory infection drug screening, lung tissue regenerative therapy
Development status
Early stage _#_ Preclinical __ Phase I __ Phase II __ Phase III __ Phase IV __ Preregistration __ Registered __
Full description (Less than 400 words)
A serum-free culture system that can support the growth of lung stem/progenitor cells has been developed. The neonatal lung-derived epithelial colony cells which express the stem cell markers such as Oct-4, SSEA-1, Sca-1 were identified. These Oct-4 colony cells represent a subpopulation of Clara cells, which have been long implicated in lung repair and regeneration after injury. Moreover, these cells are capable of differentiation into type-2 and -1 pneumocytes and are susceptible to respiratory virus infection (e.g. SARS, influenza, Avian flu). It is expected that these cells may be used in the establishment of flu drug evaluation and/or screening platforms, used in the place of the existing kidney cell infection model. Also, the capability of these cells in viral collection could be advantageous for the research and development of vaccines. Long term, lung tissue regenerative therapy could be developed resulting from the use of this system.
Patent status and no.
US 11/252458 EU, TW, JP, Australian patents are pending
Type of business relationship sought
Licensing or research cooperation
Licensing contact
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More information available on the web (company website)
http://otl.sinica.edu.tw/en/