

BioSyM Seminar Series 2017

Scalable suspension culture for the generation of billions of human induced pluripotent stem cells using single-use bioreactors

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Venue : Perseverance Room, Level 5, Enterprise Wing



Abstract

Human induced pluripotent stem cells (hiPSCs) are of great interest for biomedical applications because of their unlimited self-renewal and potential to differentiate into any adult cell type. However, the production of hiPSCs in high quantities that are sufficient for cell-based therapies and cell-loaded implants through planar adherent culture is not feasible and suffers from a lack of scalability. To overcome some of these limitations, a promising approach is to culture hiPSCs in suspension. Here, we describe our 14-day suspension culture-based protocol to generate clinically-relevant quantities of hiPSCs as cell-only aggregates. The approach described here may also contribute to hiPSC banking efforts.

Short Biography

Mr. Kwok received his B.Sc degree in Life Science from the National University of Singapore and his M.Sc degree in Life Science from the University of Würzburg, Germany. He is a doctoral fellow with the Stem Cell and Regenerative Medicine Group at the Institute of Anatomy and Cell Biology of the University of Würzburg. His doctoral work focuses on the biofabrication of composites comprising functionalised materials and reprogrammed cells, particularly human induced pluripotent and/or neural stem cells.