

Small cell lung carcinoma GLC4 cell line originated the lung tissue like structure on 3D-PVDF nanofibrous scaffold

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The behavior of cells is the key parameters explaining the communication among the cells themselves and their interaction with microenvironments. Therefore the behavior of small lung cell carcinoma GLC4 cells was reported in this study. The GLC4 cells were cultured under a high resolution inverted light microscope combined with video imaging system. In conventional culture system, the migration and aggregation of cells was clearly observed. The migration of the GLC4 cells was clearly demonstrated using the 3D-culture system. The GLC4 cells were cultured in the similar conditions of the conventional technique but this time using the 3D-PVDF nanofibrous scaffold as their extracellular matrix. The cells were firstly seeded on the top side of the

scaffolds and tissue formation covered on the scaffolds were analyzed by scanning electron microscope and energy dispersive X-ray. The migration of cells from the top to the bottom side of the scaffold and the cell community were clearly demonstrated at the bottom side when the cells were let in these situations for long time enough such as 60 days. The results of this study also showed that the cells had distinctive morphologies and specific infiltration to construct the lung tissue like structure. We suggested that these phenomenons could generated from some fraction of cell that preserved their unique function particularly multi-potency differentiation, which is the characteristic of cancer stem cell.

Biography

Krairuek Daowtak is Ph.D. student of Biomedical Science at Faculty of Associated Medical Sciences, Chiang Mai University.