REFINEMENT OF A PROTOCOL FOR THE CULTURE OF PRIMARY LUNG CANCER CELLS

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ABSTRACT

Primary cancer cell culture act as an *in vitro* model to learn about the aspects of tumor biology. A refinement of protocol for the culture of primary lung cancer cells is important as different medium and coating substrates play significant roles in enabling the cells growth and proliferation. Cells were mechanically harvested from tumor biopsy of 21 patients suspected of primary lung cancer and cultured in Dulbecco's Modified Eagle's Medium (DMEM) and Airway Epithelial Medium (AEM). Each medium was supplemented with 10% fetal bovine serum and 1% penicillin-streptomycin. Collagen type 1 and poly-L-lysine (PLL) solutions were used as the coating substrates. Cells formed monolayer attachment and epithelial-like morphology following cultured in AEM after 14 days of incubation with collagen type 1 as the coating substrate. Cells incubated in PLL coated flasks had shown no growth when cultured in AEM and DMEM. Different culture medium and coating substrates for the had different effects on the growth, proliferation and survival of the cells with respect to the morphology and attachment ability. In this study, primary lung cancer cells were able to grow in AEM with collagen type 1 as the coating substrate.

Keywords: cell culture, collagen type 1, lung cancer, primary cells

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