294h Surface Modification of Glass Capillaries to Enable Measurement of Adherent-Cell Electrophoretic Mobility

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Measurement of adherent cell electrophoretic mobility (EPM) by standard capillary electrophoresis techniques is made difficult by the rapid attachment of these cell types to glass surfaces. In the course of determining the EPM of HepG2 cells, we have tried a number of techniques for reducing the adhesivity of the capillary surface. Protein passivation was not successful, but we developed a low-temperature method for silanizing the surface of glass capillary tubes that prevents cell adhesion for at least an hour. Using this process we have estimated the electrophoretic mobility of HepG2 cells at 2.04 μm-cm/volt-sec when measured at 30 V/cm and 1.74 μm-cm/volt-sec when measured at 15 V/cm.