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Cell adhesion to polymeric materials: Implications with respect to biocompatibility

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The adhesion of radio-labeled chick embryo muscle cells to the surfaces of radiation grafted hydrogels and other polymeric materials was measured in vitro. The degree of adhesion was determined by measuring the percentage of cells which remained adherent to the surfaces after 180 min of contact time (plating efficiency). Plating efficiency was found to vary between 2 and 94% depending on the nature of the surface. Preadsorption of albumin, gamma-globulin or fibrinogen markedly affected subsequent adhesion of cells. Radiation grafted poly(2-hydroxyethyl methacrylate) and poly(N-vinyl-2-pyrrolidone) hydrogels on silicone rubber demonstrated exceptionally low adhesiveness in this assay. The potential for using this cell adhesion assay as a general screening test for biomaterials is discussed.

Biography

Dong-Seok Kim received her PhD from the Keimyung University School of Medicine (Korea) in 2003. She is working as a postdoctoral fellow in the Department of Biochemistry at the Chung-Ang University College of Medicine. For a period of two years her work involves bioartificial skin and signaling pathways of hyperpigmentation in melanocytes.

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