Rat mesenchymal stem cells and human adipose tissue-derived stem cells biocompatibility of bioactive glass/PVA

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Abstract

Bioactive glass/polymer hybrids are promising materials for biomedical applications because they combine the bioactivity of these bioceramics with the flexibility of polymers. In previous work hybrid foams with 50% bioactive glass and 50% polyvinyl alcohol (PVA) were prepared by the sol-gel process for application as scaffold for bone tissue engineering. In this work the hybrid samples were tested in rat mesenchymal stem cells (rMSC) and human adipose tissue-derived stem cells (hADSC) culture to evaluate adhesion and proliferation. The hybrid 50% PVA/bioactive glass foam was chosen as the best scaffold in the composition range studied and it is a promising material for bone repair, providing a good environment for the adhesion and proliferation of rat mesenchymal stem cells and human adipose tissue-derived stem cells *in vitro*.