Graphene Oxide Cell Culture Substratum for Human Adipose-Derived Stem Cells

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Nanoscale topography of artificial substrates can greatly influence the fate of stem cells including adhesion, proliferation, and differentiation. Thus the design and manipulation of nanoscale stem cell culture platforms or scaffolds are of great importance as a strategy in stem cell and tissue engineering applications. In this poster, we propose that a graphene oxide (GO) film is an efficient platform for modulating structure and function of human adipose-derived stem cells (hASCs). The hASCs grown on the GO films showed increased adhesion, indicated by a large number of focal adhesion, and higher correlation between the orientations of actin filaments and vinculin bands compared to hASCs grown on the glass (uncoated GO substrate).

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