

The Influence of Alginate Microspheres Modified with DAT on the Proliferation and Adipogenic Differentiation of ASCs

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Abstract : Decellularized adipose tissue (DAT) has received lots of attention as biological scaffolds recently. DAT that extracted from the extracellular matrix (ECM) of adipose tissues holds great promise as a xenogeneic biomaterial for tissue engineering and regenerative medicine. In our study, 2-D DATsol film was fabricated to enhance cell adhesion, proliferation, and differentiation of ASCs in vitro. DAT was also used to modify alginate for improvement of cell adhesion. Alginate microspheres modified with DAT were prepared by Nisco. These microspheres could provide a highly supportive 3-D environment for ASCs. In our works, ASCs were immobilized in alginate microspheres modified with DAT to promoted cell adhesion and adipogenic differentiation. Accordingly, we hypothesize that tissue regeneration in vivo could be promoted with the aid of modified microspheres in future.

Keywords : adipose stem cells, decellularize adipose tissue, Alginate, microcarries

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