

Application of Tissue Engineering Technique on 3-D hair growth model

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Abstract

The recent development of methods for culturing hair follicles *in vitro* has proved an important tool to investigate many aspects of drug screening. Epithelial-mesenchymal interactions (EMI) play a central role in organogenesis in many tissues and various types of appendages, including hair follicles. The mature hair follicle is a small but complex and dynamic organ, and it provides important functions that promote social interactions. EMI in hair follicles are demonstrably important for hair development and biological processes such as hair shaft elongation and cyclic activities. Hair follicle organ culture is suitable to efficacy test of some materials and basic research field. But effective hair growth model *in vitro* is not established so far. Therefore we made organ culture system using DE for the regular and long term culture of hair growth.

Hair follicles on DE are more superior to those only at submerge in aspect of hair growth¹⁾²⁾. We could maintain follicles *in vitro* for up to 25 days.

References

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