

Reconstruction of dermal papilla like tissue employing mesencymal stem cells by self-aggregation

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Hair follicles, among other cells, are formed and maintained through the interaction between epithelium and dermis, and it has been shown that dermal papilla plays a key role in the growth of the hair follicle. The methods currently used for treating alopecia have a number of limitations, and to overcome such problems, many researchers have attempted to revive hair follicles by *in vitro* culturing hair follicle cells and implanting them in the treatment area. In our study, by utilizing culture-expanded mesenchymal stem cells (MSCs) which don't have aggregative activity, cell-aggregated spheroidal DP tissues were produced by a special culture condition *in vitro*, and hair follicle inductive capacity pertinent to the aggregative activity was evaluated. Also, we were confirmed by light microscope and immunohistochemical staining that the reconstructed DP tissues generated by such procedure had the size, shape, and expression of protein similar to actual DP.