ABSTRACT BOOK
ABSTRACTS

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CHARACTERIZATION AND BIOLOGICAL SAFETY ASSESSMENT OF TRANS-CULTURED SKIN-DERIVED PRECURSORS (TSKPS) FROM HUMAN SKIN

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Skin-derived precursors (SKPs) are a novel kind of stem cells from dermis. Although mouse SKPs have been cultured successfully with large quantity, human SKPs are still difficult to be cultured. In this study, we will focus on tSKPs from human skin with an efficient and simple method, trying to provide new ideas and experimental evidence for human SKPs cultivation and their clinical applications.

In our study, we found that tSKPs could be isolated from monolayer FBs and these tSKPs had similar characteristics with primary SKPs in terms of cell morphology, specific markers and differeantiation potentials. These cytospheres of tSKPs were composed of both aggregated cells and proliferating cells. The higher the seeding cell number was, the lower the percentage of proliferating cells was. Only seeded below 1×10^3 cells/ml density, spheres could be considered being formed from a signle cell proliferating. The biological characteristics of tSKPs were not completely identical to FBs in terms of growth curve, cell cycle, specific markers expression, differentiational potentials and transcriptome. FBs presented the feature of rapid proliferation, while tSKPs exhibited better stemness. It was suggested that Slug transcription factor might contribute to the difference.As for the biological safety, both tSKPs and FBs could maintained their chromosomal karyotypes in normal state in long-term culture, and both of them expressed low level of HLA-I rather than HLA-DR, suggesting that they were poorly immunogenic. Transplanted into SCID mice, both tSKPs and FBs showed non-tumorgenicity. Taken as a whole, we results indicated that both tSKPs and FBs were biological safe for further application.

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