

论著

纤维蛋白胶与兔角膜3种细胞构建组织工程细胞片研究

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摘要 目的: 观察兔角膜3种细胞能否在体外构建的纤维蛋白胶体上良好生长, 探讨纤维蛋白胶作为组织工程细胞片支架材料的可行性。

方法: 将培养扩增的兔角膜3种细胞分别接种于纤维蛋白胶表面, 采用倒置显微镜, HE染色和扫描电子显微镜, 观察兔角膜3种细胞在纤维蛋白胶表面生长情况。

结果: 制备的薄层纤维蛋白胶支架光滑、透明, 随培养细胞的生长部分降解, 可获得仅带少量纤维蛋白胶的细胞片。角膜3种细胞在纤维蛋白胶表面生长良好, 可保持生理状态的细胞形态。角膜上皮细胞可形成单层和复层, 细胞间连接紧密。角膜内皮细胞呈圆形或多角形, 细胞大小一致, 排列紧密。角膜基质细胞拉长生长, 呈三角形或树枝状, 细胞间连接明显, 可形成网状连接。

结论: 体外构建的纤维蛋白胶与角膜3种细胞有组织相容性, 纤维蛋白胶有望作为角膜3种细胞的生长载体构建可供移植的组织工程细胞片。

关键词 [纤维蛋白组织黏着剂](#); [角膜](#); [细胞培养](#); [组织工程](#)

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Studies of cell sheet engineering on fibrin glue cultured with three kinds of rabbit corneal cells

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Abstract

AIM: To study whether three kinds of rabbit corneal cells can grow well on fibrin glue (FG) constructed in vitro, and investigate the feasibility of FG for the scaffold of cell sheet engineering.
METHODS: Three kinds of corneal cells were seeded on FG which was produced in vivo. Cell growth on FG was examined as follows: (1) by inverted microscope; (2) histologically by hematoxylin and eosin; (3) by scanning electron microscopy.
RESULTS: Fibrin glue prepared was smooth and transparent. With cell growth, FG degraded partly, then obtained cell sheet engineering only with a small amount of FG. Corneal cells generated well on the fibrin glue in vitro and maintained the physiological state of cells. Corneal epithelial cells formed unilaminar and stratified layers and cellular joins. Corneal endothelial cells formed round or polygon, the same size cells and lined up tightly. Corneal stroma cells formed triangle and arborization, cell-cell junction was obvious, and formed network link.
CONCLUSION: Fibrin glue is well compatible with three kinds of corneal cells, which can construct tissue engineered cell sheet with fibrin glue, so as to reconstruct ocular surface.

Key words [Fibrin tissue adhesive](#) [Cornea](#) [Cell culture](#) [Tissue engineering](#)

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