# Locomotion of human skin keratinocytes on polystyrene, fibrin, and collagen substrata and its modification by cell-to-cell contacts.

Authors: Drukaa J., Bandura L., Cieslik K., Korohoda W.

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## Abstract:

Epithelial wound repair assures the recovery of the epithelial barrier after wounding. During wound healing epithelial cells migrate to cover the wound surface. The presented experiments were carried out to compare the migration of human keratinocytes from primary and secondary culture on polystyrene, collagen, and fibrin glue used in clinical techniques. The images of migrating keratinocytes were recorded and analyzed using computer-aided methods. The results show that the character of the substrate strongly affects the speed and turning behavior of keratinocytes locomoting over it. The highest motile activity of human skin keratinocytes was found on fibrin glue substratum. It was found that locomotion of freely moving isolated cells was much faster than that of cell sheets. The autologous keratinocytes cultured in vitro were applied with fibrin glue to cover trophic wounds. The transplantation of human autologous keratinocyte suspension in fibrin glue upon long-lasting trophic wounds appeared to induce rapid and permanent wound healing.