

### **MIGRATION OF HUMAN KERATINOCYTES ON ALIGNED FIBROBLASTS**

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Keratinocyte migration is essential for skin coverage during the healing of wounds. This process is influenced by factors present in the local environment of the wound, including extracellular matrix components (ECM) and soluble growth factors. In this regard, dermis, which consists mainly of fibroblasts, has been postulated to play a crucial role in keratinocyte migration.

The tendency of cells to be guided by the shape of the substratum is called contact guidance. The main objective of this study was to find out if contact guidance is displayed by human keratinocytes on human skin fibroblasts aligned in compact monolayer (as *in vivo*) cultures. To investigate this hypothesis, keratinocytes were plated on aligned fibroblasts, and their motile activity was measured. The study demonstrated that: 1) keratinocytes show contact guidance on aligned human skin fibroblasts; 2) the length of keratinocyte tracks migrating on aligned fibroblasts and on polystyrene is not statistically different; and 3) the shape of keratinocytes is influenced by the architecture of the underlying substratum – the cells on the fibroblasts had an elongated shape, with their long axes almost parallel to the long axes of the underlying fibroblasts.

Based on these findings, we suggest that this mechanism may be a useful model for research aimed at accelerating the wound healing processes.