

**EXPRESSION AND LOCALIZATION OF INTEGRINS IN HUMAN UTERINE EPITHELIAL CELLS**Thie M., Albers A., Denker H.-W.

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Attachment of trophoblastic cells to the apical plasma membrane of uterine epithelial cells (UECs) represents a key event in the course of embryo implantation. Previous studies suggest that endometrial "receptivity" depends critically on UECs entering a peculiar cell biological state, expressing specific sets of cell-cell adhesion molecules at their surface membranes. We are interested in the switches in major cell differentiation programs of UECs that may form the basis for changed expression of adhesion molecules.

Here, we are reporting studies on the expression and localization of certain integrins, i.e. alpha 1, 3, 5, 6 and beta 1, 2, 3, 4 chains, on UECs of various differentiation states. The models used comprise human endometrial tissue from the early proliferative phase through the late secretory phase of menstrual cycle and isolated human endometrial epithelial cells, cultivated under polarizing and non-polarizing culture conditions. Polarized monolayer cultures were obtained by growing on microporous membranes, non-polarized cultures by growing on glass dishes.

Using immunohistochemistry we could demonstrate that alpha 1, 6 and beta 1, 4 integrins are present on UECs. The patterns of immunostaining, however, showed significant differences between the models used. In human endometrial tissue these integrins were expressed at the basal or the basal plus lateral membranes of the cells depending on the phase of the menstrual cycle. Patterns of cultivated cells differed depending on given growth conditions. These results suggest that the investigated integrins may not only be important for trophoblast attachment but also seem to allow to monitor the receptive state vs. the non-receptive state of UECs.

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