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## ABSTRACTS

### 22 Stage-specific changes of apical plasma membrane-bound enzymes of rabbit uterine epithelium during the periimplantation phase

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In order to monitor membrane changes in the uterine epithelium which may be a precondition for trophoblast attachment, marker enzymes for apical membrane domains: alkaline phosphatase (aP), aminopeptidase M (AM),  $\gamma$ -glutamyltransferase ( $\gamma$ -GT), and dipeptidylpeptidase IV (DPP IV) were studied histochemically at the light-microscopical level. For AM, in addition, immunohistochemical localization using the monoclonal antibody 1D8.1 (kindly provided by J.-P. Gorvel and S. Maroux, C.N.R.S., Marseille) has been studied and has shown the same pattern of distribution. The principally apical localization of aP in the uterine epithelium was confirmed electron microscopically using a cerium method.

All marker enzymes studied showed considerable changes in their activity during early pregnancy (5–8 days post coitum, d p.c.) and pseudopregnancy (post hCG injection, p. hCG). The main activity was detected at 5–6 d p.c./p. hCG. Loss of apical-type characteristics as evidenced by the marker enzymes occurred at about implantation time (7–8 d p.c.). In the implantation chamber, DPP IV remained high and the activity of aP even raised again at 7 and 8 d p.c. in contrast to the interblastocyst segments. This indicates a modulating effect of the blastocyst on the surrounding luminal epithelium.

The observed loss of membrane-bound enzyme activity suggests that a general dramatic change takes place in the composition of the apical plasma membrane of the uterine epithelium when the endometrium is hormonally prepared for embryo implantation.

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