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JOURNAL ARTICLE

TGF-beta could be involved in paracrine actions in the epididymis of the marmoset monkey (*Callithrix jacchus*)

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The transforming growth factor-beta1 (TGF-beta1) and the transforming growth factor-beta receptor type II (TGF-betaRII) were studied in the epididymis of sexually mature marmoset monkeys (*Callithrix jacchus*) by immunohistochemical localization of the protein and by polymerase chain reaction (PCR) analysis of the mRNA level. In order to specify reactive cell types, the morphology of all three segments (caput, corpus, and cauda epididymidis) was evaluated by light microscopy. Six different cell types could be distinguished: principal, basal, apical, and clear cells, as well as intraepithelial lymphocytes and macrophages. Using immunohistochemistry, specific staining for TGF-beta1 in the caput was found in 47% of the apical cells, whereas the TGF-betaRII was located in the apical portion of 91% of all principal cells. In the corpus epididymidis, 20% of the apical cells were immunopositive for TGF-beta, and binding of the receptor antibody occurred in 17% of the principal cells (all numbers based on counts of counterstained nuclei). All differences between percentages in the caput and corpus were significant as determined by chi-square test. PCR analysis revealed detectable levels of TGF-beta1 mRNA in the marmoset epididymis. Our results indicate for the first time that TGF-beta1 is synthesized in the marmoset epididymis, possibly in a different subpopulation of epididymal cells than the TGF-beta receptor type II. Thus, TGF-beta might be of functional relevance in the primate epididymis.

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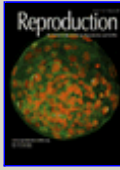
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