

Journal of Andrology, Vol 13, Issue 6 465-475, Copyright © 1992 by The American Society of Andrology

## REVIEW

# Normal and abnormal development of the male urogenital tract. Role of androgens, mesenchymal-epithelial interactions, and growth factors

G. R. Cunha, E. T. Alarid, T. Turner, A. A. Donjacour, E. L. Boutin and B. A. Foster

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Androgen-dependent male urogenital development occurs via mesenchymal-epithelial interactions in which mesenchyme induces epithelial morphogenesis, regulates epithelial proliferation, and evokes expression of tissue-specific secretory proteins. Mesenchymal-epithelial interactions continue to be important into adulthood. For example, mesenchyme of the urogenital sinus (UGM) and seminal vesicle (SVM) induce dramatic morphologic and functional changes in various adult epithelia. Since adult epithelial cells are unquestionably responsive to mesenchymes that can elicit expression of alternative morphologic and functional phenotypes, established carcinomas might also be influenced by their connective tissue environment. In this regard, Dunning prostatic tumor has been induced by UGM or SVM to differentiate into tall columnar secretory epithelial cells. This change in cytodifferentiation is associated with a reduction in growth rate and loss of tumorigenesis. The role of soluble growth factors in the mechanism of mesenchymal-epithelial interactions is discussed.

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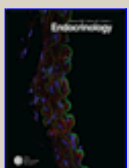


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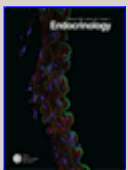
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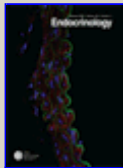
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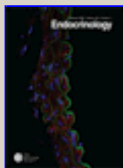
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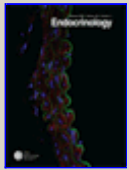
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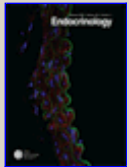
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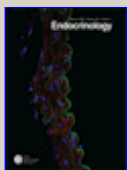
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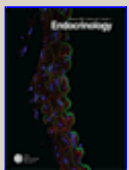
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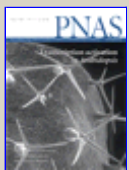
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