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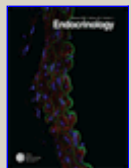
JOURNAL ARTICLE

Estrogen receptor (alpha and beta) expression in the excurrent ducts of the adult male rat reproductive tract

R. A. Hess, D. H. Gist, D. Bunick, D. B. Lubahn, A. Farrell, J. Bahr, P. S. Cooke and G. L. Greene
Department of Veterinary Biosciences, University of Illinois, Urbana 61802, USA.

The understanding of estrogen's function in the male reproductive tract is limited, and estrogen receptor (ER) localization in the reproductive tract of the adult male rat has not been described. In the present study, ER α was localized by immunohistochemistry using ER21 antibody, which recognizes only ER α . Strongest immunoreactivity was seen in epithelia of ductuli efferentes and the initial segment of the epididymis. Nuclei of both ciliated and nonciliated cells were positive. The epithelium of the rete testis, and caput, corpus, and cauda epididymides stained less intensely for ER α . The vas deferens epithelium was ER α -negative. Stromal tissue in the excurrent ducts was also ER α -positive. Using 3H-estradiol autoradiography, specific binding of estradiol was seen in nuclei of ductuli efferentes. Estrogen receptor alpha mRNA expression was greatly enhanced in ductuli efferentes compared to other regions of the male tract and was 3.5x greater than in the uterus. For comparison, the presence of ER α was determined using reverse transcription-polymerase chain reaction (RT-PCR) amplification. Estrogen receptor beta mRNA was expressed throughout the male tract and in the prostate. These results indicate that all organs in the male excurrent ductal system of the rat express ER α and are potential targets of estrogen. However, the ductuli efferentes are the site of the most intense ER α expression. The role of ER β remains to be determined, but its expression appears ubiquitous in the male tract.

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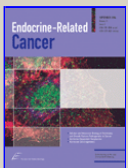
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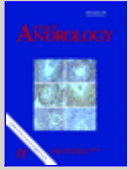
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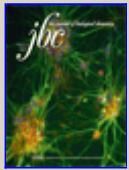
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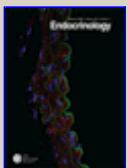
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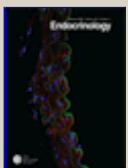
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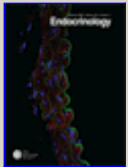
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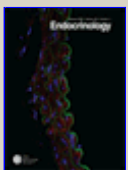
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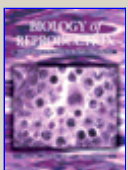
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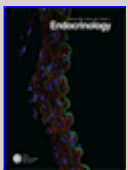
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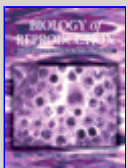
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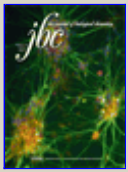
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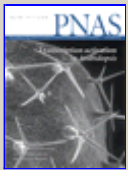
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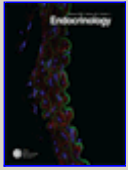
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Chinese Hamster Ovary Cells
Mol. Endocrinol., February 1, 1999; 13(2): 307 - 319.
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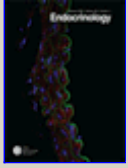


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Transcription and Translation of Estrogen Receptor- β in the Male Reproductive Tract of Estrogen Receptor- α Knock-Out and Wild-Type Mice

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