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JOURNAL ARTICLE

Effects of finasteride on the rat ventral prostate

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The objectives of this study were to compare changes in the ventral prostate (VP) of young adult Sprague Dawley rats after 28 days of treatment with finasteride (F), a potent 5 alpha-reductase inhibitor, with those caused by castration (Cx). VP concentrations of DHT were reduced to 20.2% and 6.6% of controls (1,947 +/- 207 pg/VP, mean +/- SE) by F (5 or 20 mg/kg/day) and to 2.6% of controls by Cx. VP weights were reduced 49% and 54% by F and 88% by Cx. DNA/VP fell 25% and 15% with F treatment and 72% after Cx, whereas RNA and protein/VP were reduced 37-51% by F and 91-93% by Cx. The RNA/DNA and the protein/DNA ratios fell to 30-36% of controls after F treatment and to 70% of controls after Cx. The mRNA concentrations of the C3 subunit of prostatein 28S ribosomal RNA fell after treatment with F (5 mg/kg/day) and after Cx, whereas the mRNA for TRPM-2, an androgen-suppressed protein associated with apoptosis, was increased only after castration. To examine further the effects of F on the rate of DNA synthesis, 7-day regressed adult rats were treated for 3 days with testosterone propionate +/- F, and incorporation of 3H-thymidine in minced ventral prostates was determined. F inhibited 3H-thymidine incorporation. We conclude that Cx causes a greater reduction in cell number/VP and a greater reduction in RNA and protein cell than F and that the differences between F treatment and castration probably result from differences in prostatic concentrations of T.(ABSTRACT TRUNCATED AT 250 WORDS)

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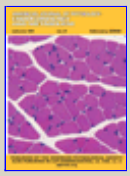

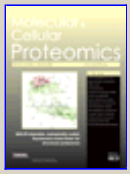

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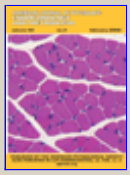
C. Cayatte, C. Pons, J.-M. Guigonis, J. Pizzol, L. Elies, P. Kennel, D. Rouquie, R. Bars, B. Rossi, and M. Samson
Protein Profiling of Rat Ventral Prostate following Chronic Finasteride Administration: Identification and Localization of a Novel Putative Androgen-regulated Protein
Mol. Cell. Proteomics, November 1, 2006; 5(11): 2031 - 2043.
[Abstract] [Full Text] [PDF]



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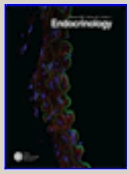
S. E. Borst, J. H. Lee, and C. F. Conover
Inhibition of 5{alpha}-reductase blocks prostate effects of testosterone without blocking anabolic effects
Am J Physiol Endocrinol Metab, January 1, 2005; 288(1): E222 - E227.
[Abstract] [Full Text] [PDF]



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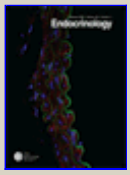
W. Gao, J. D. Kearbey, V. A. Nair, K. Chung, A. F. Parlow, D. D. Miller, and J. T. Dalton
Comparison of the Pharmacological Effects of a Novel Selective Androgen Receptor Modulator, the 5{alpha}-Reductase Inhibitor Finasteride, and the Antiandrogen Hydroxyflutamide in Intact Rats: New Approach for Benign Prostate Hyperplasia
Endocrinology, December 1, 2004; 145(12): 5420 - 5428.
[Abstract] [Full Text] [PDF]



Endocrinology HOME

A. S. Wright, R. C. Douglas, L. N. Thomas, C. B. Lazier, and R. S. Rittmaster
Androgen-Induced Regrowth in the Castrated Rat Ventral Prostate: Role of 5{alpha}-Reductase
Endocrinology, October 1, 1999; 140(10): 4509 - 4515.
[Abstract] [Full Text]
