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## JOURNAL ARTICLE

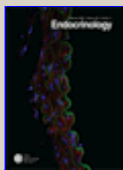
# The effect of aging on the seminiferous epithelium of the brown Norway rat

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Aging of the mammalian testis is often accompanied by loss of germ cells and, as a result, decreased daily sperm production. It is currently unknown whether cell loss is the result of aging-related changes in germ cells or whether there are also aging-related changes in the Sertoli cells that normally support germ development and differentiation. To begin to compare the effects of age on germ cells and on Sertoli cells, we examined brown Norway rats of 6, 12, 18, 21, and 24 months of age for the frequency of seminiferous tubule regression and total testis contents of transcripts for three Sertoli cell products: SGP-2, transferrin, and cyclic protein-2 (CP-2)/cathepsin L. Histological analysis revealed no changes in the seminiferous epithelium from 6 to 12 months of age. However, from 12 to 24 months of age, the percentage of normal tubules gradually decreased from 95% to 15% of the total while the percentage of fully regressed tubules (containing no germ cells per tubule cross section) increased from 0% to 78%. In our analysis of specific Sertoli cell transcripts, we noted no change in total testis content of SGP-2 mRNA from 6 to 24 months. However, total testis content of transferrin mRNA was unchanged from 6 to 18 months, but increased by 24 months to 368% of the content of a 6-month-old testis. In contrast, total testis content of CP-2/cathepsin L mRNA was unchanged from 6 to 12 months, but decreased by 24 months to 58% of the content of a 6-month-old testis. (ABSTRACT TRUNCATED AT 250 WORDS)

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Biol Reprod, March 1, 2003; 68(3): 996 - 1002.

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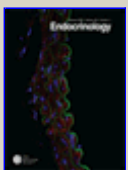


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Age-Related Decreases in Leydig Cell Testosterone Production Are Not Restored by Exposure to LH in Vitro

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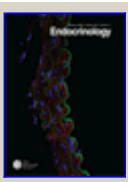


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Male Germ Cells Regulate Transcription of the Cathepsin L Gene by Rat Sertoli Cells

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