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JOURNAL ARTICLE

Testosterone regulation of proto-oncogene c-myc expression in primary Sertoli cell cultures from prepubertal rats

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The expression of c-myc has been associated with cell proliferation through changes of nuclear function. To evaluate the possibility that the proto-oncogene c-myc plays a role in testosterone-dependent gene regulation, the effects of testosterone on the expression of c-myc have been investigated in primary Sertoli cell cultures. Testosterone increased c-myc mRNA levels, with maximal stimulation reached in 16 hours. The induction of c-myc mRNA was dependent on the concentration of testosterone. Testosterone-induced c-myc mRNA levels were also increased in cells after addition of cycloheximide but reduced by actinomycin-D pretreatment. Even in the absence of hormone in culture medium, c-myc mRNA was clearly detectable in Sertoli cells from 8-day-old rats but hardly detectable in cells from 14 and 28 days of age. Testosterone stimulated c-myc mRNA expression in the Sertoli cells from only 8-/and 14-day-old rats. These results suggest that testosterone induces c-myc mRNA levels in the primary Sertoli cells from prepubertal rats, and then transient expression of c-myc may be responsible for some of the regulatory roles of testosterone-dependent genes in the Sertoli cells. The biological significance of testosterone-dependent c-myc induction is not known.

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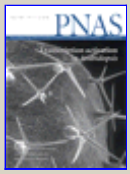

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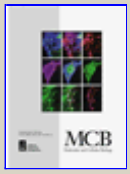

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