

Journal of Andrology, Vol 15, Issue 6 543-550, Copyright © 1994 by The American Society of Andrology

JOURNAL ARTICLE

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

K. Lim, J. H. Yoo, K. Y. Kim, G. R. Kweon, S. T. Kwak and B. D. Hwang

Department of Biochemistry, School of Medicine, Chungnam National University, Daejeon, Korea.

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.

This article has been cited by other articles:



Journal of Endocrinology

[HOME](#)

W. Xia, D. D Mruk, W. M Lee, and C Y. Cheng
Unraveling the molecular targets pertinent to junction restructuring events during spermatogenesis using the Adjudin-induced germ cell depletion model

J. Endocrinol., March 1, 2007; 192(3): 563 - 583.

[\[Abstract\]](#) [\[Full Text\]](#) [\[PDF\]](#)

This Article

- ▶ [Full Text \(PDF\)](#)
- ▶ [Alert me when this article is cited](#)
- ▶ [Alert me if a correction is posted](#)

Services

- ▶ [Similar articles in this journal](#)
- ▶ [Similar articles in PubMed](#)
- ▶ [Alert me to new issues of the journal](#)
- ▶ [Download to citation manager](#)

Citing Articles

- ▶ [Citing Articles via HighWire](#)
- ▶ [Citing Articles via Google Scholar](#)

Google Scholar

- ▶ [Articles by Lim, K.](#)
- ▶ [Articles by Hwang, B. D.](#)
- ▶ [Search for Related Content](#)

PubMed

- ▶ [PubMed Citation](#)
- ▶ [Articles by Lim, K.](#)
- ▶ [Articles by Hwang, B. D.](#)



BIOLOGY of REPRODUCTION

▶ HOME

J. Chaudhary, I. Sadler-Riggleman, J. M. Ague, and M. K. Skinner
The Helix-Loop-Helix Inhibitor of Differentiation (ID) Proteins Induce Post-Mitotic Terminally Differentiated Sertoli Cells to Re-Enter the Cell Cycle and Proliferate

Biol Reprod, May 1, 2005; 72(5): 1205 - 1217.

[\[Abstract\]](#) [\[Full Text\]](#) [\[PDF\]](#)



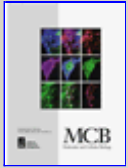
Proceedings of the National Academy of Sciences

▶ HOME

C. Fix, C. Jordan, P. Cano, and W. H. Walker
Testosterone activates mitogen-activated protein kinase and the cAMP response element binding protein transcription factor in Sertoli cells

PNAS, July 27, 2004; 101(30): 10919 - 10924.

[\[Abstract\]](#) [\[Full Text\]](#) [\[PDF\]](#)



Molecular and Cellular Biology

▶ HOME

C. Y. Hong, J. H. Park, K. H. Seo, J.-M. Kim, S. Y. Im, J. W. Lee, H.-S. Choi, and K. Lee

Expression of MIS in the Testis Is Downregulated by Tumor Necrosis Factor Alpha through the Negative Regulation of SF-1 Transactivation by NF- κ B

Mol. Cell. Biol., September 1, 2003; 23(17): 6000 - 6012.

[\[Abstract\]](#) [\[Full Text\]](#) [\[PDF\]](#)



Cell Growth & Differentiation

▶ HOME

D. C. Whitacre, S. Chauhan, T. Davis, D. Gordon, A. E. Cress, and R. L. Miesfeld

Androgen Induction of in Vitro Prostate Cell Differentiation

Cell Growth Differ., January 1, 2002; 13(1): 1 - 11.

[\[Abstract\]](#) [\[Full Text\]](#) [\[PDF\]](#)

[HOME](#) [HELP](#) [FEEDBACK](#) [SUBSCRIPTIONS](#) [ARCHIVE](#) [SEARCH](#) [TABLE OF CONTENTS](#)

Copyright © 1994 by The American Society of Andrology.