

Journal of Andrology, Vol 18, Issue 4 393-399, Copyright © 1997 by The American Society of Andrology

JOURNAL ARTICLE

Development and characterization of a prepubertal rat Sertoli cell line, 93RS2

C. Jiang, S. J. Hall and K. Boekelheide

Department of Pathology and Laboratory Medicine, Brown University, Providence, Rhode Island 02912, USA.

Sertoli cells in the seminiferous epithelium provide both structural and nutritional support to germ cells during spermatogenesis. Primary Sertoli cells in culture are an effective tool for the in vitro study of Sertoli cell function; however, primary cultures are inherently variable, time consuming to prepare, expensive, and wasteful of animals. We therefore developed a Sertoli cell line, called 93RS2, by immortalizing primary Sertoli cells derived from prepubertal rats with SV40 tsA255. This cell line proliferates at the permissive temperature (32 degrees C) and has enhanced expression of a differentiated Sertoli cell phenotype at the nonpermissive temperature (40-41 degrees C). Cytogenetic analysis demonstrated that 93RS2 has 42 chromosomes per cell, the same as a normal rat. mRNA analysis showed that this cell line, when cultured at a nonpermissive temperature, exhibited increased expression of transferrin in the presence of testosterone and enhanced expression of sulfated glycoprotein-2. A tumorigenicity assay showed that 93RS2 cells were temperature-dependent for growth in soft agar and were capable of forming tumors in nude mice. In conclusion, this rat 93RS2 cell line should be useful for the study of Sertoli cell function.

This article has been cited by other articles:



Journal of **ANDROLOGY**

[HOME](#)

S. A. Beall, K. Boekelheide, and K. J. Johnson
Hybrid GPCR/Cadherin (Celsr) Proteins in Rat Testis Are Expressed
With Cell Type Specificity and Exhibit Differential Sertoli Cell-Germ
Cell Adhesion Activity

J Androl, July 1, 2005; 26(4): 529 - 538.

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



Journal of **ANDROLOGY**

[HOME](#)

M.-C. Hofmann, K. S. Van Der Wee, J. L. Dargart, G. Dirami, L. Dettin, and
M. Dym
Establishment and Characterization of Neonatal Mouse Sertoli Cell
Lines
J Androl, January 1, 2003; 24(1): 120 - 130.

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 Jiang, C.](#)
- ▶ [Articles by Boekelheide, K.](#)
- ▶ [Search for Related Content](#)

PubMed

- ▶ [PubMed Citation](#)
- ▶ [Articles by Jiang, C.](#)
- ▶ [Articles by Boekelheide, K.](#)

