www.ixcellsbiotech.com
10340 Camino Santa Fe, Suite C, San Diego, CA 92121
Tel: (858)412-5988 Fax: (858)368-8716
Technical Supports: supports@ixcellsbiotech.com
Orders: orders@ixcellsbiotech.com

Product Information

Rat Sertoli Cells (RSC)

Catalog Number	10RA-038	Cell Number	1.0 million cells/vial
Species	*Rattus norvegicus*	Storage Temperature	Liquid nitrogen

Product Description

Sertoli cells are highly specialized cells found in the testes. They played an important role in the development and maturation of sperm cells, or spermatozoa, within the testes, a process called spermatogenesis. Because Sertoli cells function largely to assist the developing sperm cells through their maturation process, they sometimes are referred to as a nurse cell of the testicles. They are part of a seminiferous tubule and helps in the process of spermatogenesis [1] . Sertoli cells provide immature models for a high potential of nursing purpose and supporting function for the maturity.

iXCells Biotechnologies provides high quality Rat Sertoli Cells (RSC), which are isolated from the testes of male rats aged 19-21 days (Figure 1) and cryopreserved at P0, with >1 million cells in each vial. RSC express vimentin (Figure 2) and they are negative for mycoplasma, bacteria, yeast, and fungi. RSCs can be maintained in Sertoli Cell Growth Medium (Cat# MD-0091) under the condition suggested by iXCells Biotechnologies.

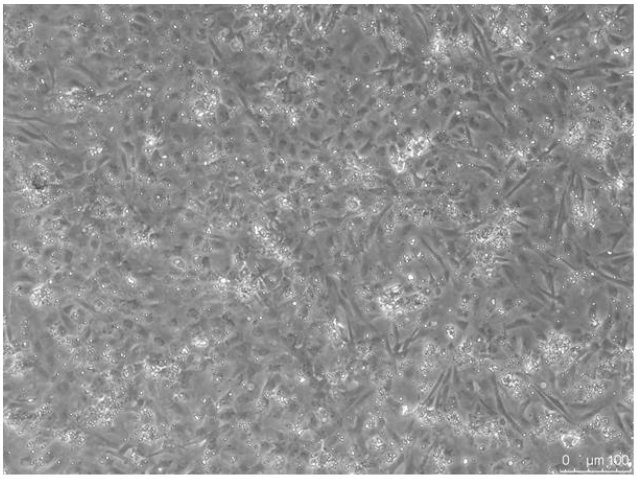

Figure 1. Rat Sertoli Cells(Phase contrast).

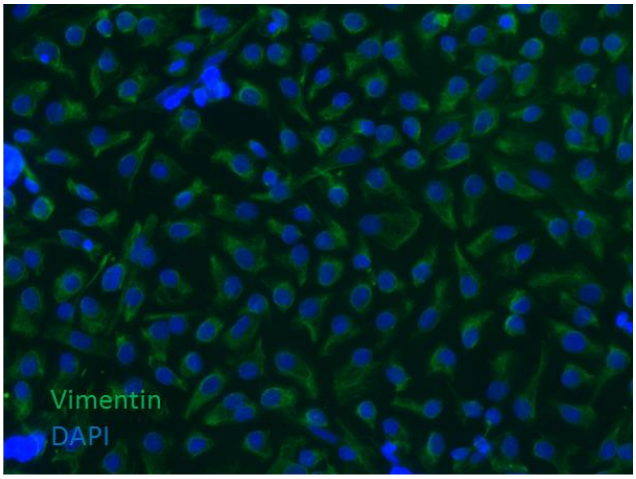

Figure 2. Rat Sertoli Cells are positive for Vimentin.

Product Details

Tissue	Rat testis
Package Size	1.0 million cells/vial
Passage Number	P0
Shipped	Cryopreserved
Storage	Liquid nitrogen
Growth Properties	Adherent
Media	Rat Sertoli Cell Medium Kit (Cat# MD-0091): Containing Rat Sertoli Cell Basal Medium (250 mL) and Rat Sertoli Cell Complete Medium (250 mL)

Protocols

Thawing of Frozen Cells

1. Upon receipt of the frozen Rat Sertoli Cells (RSC), immediately place into liquid nitrogen storage or thaw the cells and initiate the culture immediately in order to retain the highest cell viability.
2. Prepare a DSA lectin (lectin from *Datura stramonium*) coated 6-well plate: Dissolve 500 µg Lectin (SigmaAldrich, Cat# L2766-1 MG) with 1 ml 1X HBSS to make a stock solution. Before each coating, dilute stock solution to 5 µg/ml with 1X HBSS and add to each well. Incubate at 37°C with 5% CO_2 for 2 hours.
3. Rinse plate with 1X HBSS twice before use
4. To thaw the cells, put the vial in 37°C water bath with gentle agitation until the contents completely thaw. Keep the cap out of water to minimize the risk of contamination.
5. Carefully transfer the cells into a 15 ml conical tube with ~5 ml fresh **Rat Sertoli Cell Basal Medium**. Gently re-suspend and dispense the contents.
6. Centrifuge at 300 g for 5 min.
7. Remove the supernatant and re-suspend the pellet with 1 ml **Rat Sertoli Cell Basal Medium**.
8. Transfer the cell suspension into the lectin-coated plate. We recommend seeding 1 vial of cells into 2 wells of a 12-well plate or 1 well of a 6-well plate.
9. Return the culture plate to 37°C incubator (5% CO_2) for continuous culture.
10. For the best result, do not disturb the culture for at least 1 day after the culture has been initiated.

Safety Precaution: *it is highly recommended that protective gloves and clothing should be used when handling frozen vials.*

Standard Culture Procedure

1. Rat Sertoli Cells (RSC) should be maintained in the **Rat Sertoli Cell Basal Medium** for 7-10 days. It is normal to see non-attached or dead cells dominant in the culture within the first two days. RSC will grow and become noticeable 48 h-72 h after seeding (Figure 3, Left). DO NOT change medium until day 4.
2. Replace half of the basal medium with the equal volume of fresh medium on day 4.
3. Change medium every 3-4 days.
4. By day 8-12 when RSC dominate the wells and show uniform population. Remove the basal medium, then add adequate **Sertoli Cell Complete Medium** to the cells**.** RSC will form monolayer in a few days (Figure 4).

   Note: *It is not recommended to passage the RSC because the cells will lose their identity.*

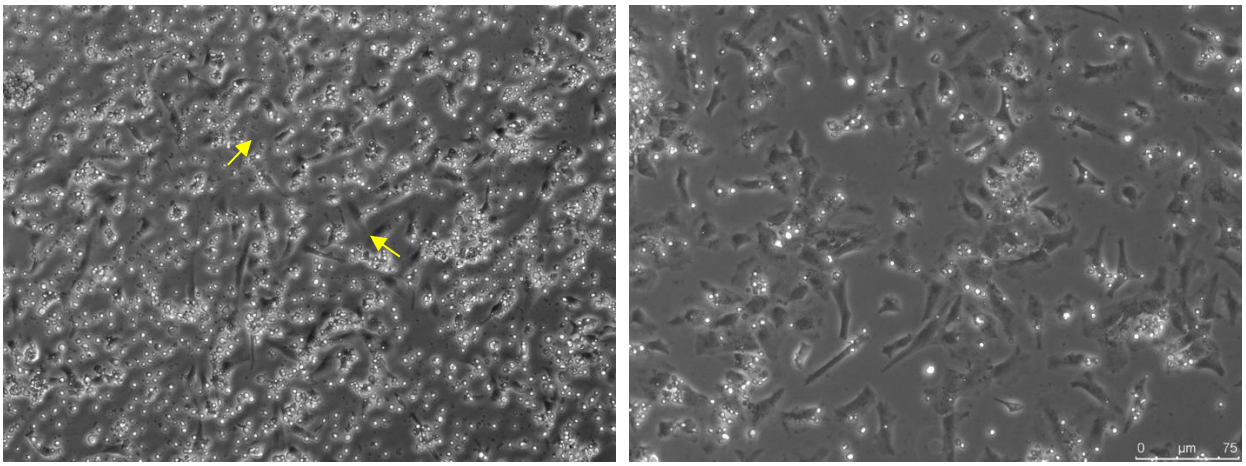

Figure 3. (Left): Phase-contrast image of Rat Sertoli Cells 48 h after seeding. Yellow arrows indicate Sertoli cells. The cells were cultured in Rat Sertoli Cell Basal Medium. Cells were imaged at 100x magnification.

(Right): Uniform population of Rat Sertoli Cells at day 8. The number of unattached or dead cells were significantly reduced. The cells were cultured in Rat Sertoli Cell Basal Medium. Cells were imaged at 100x magnification.

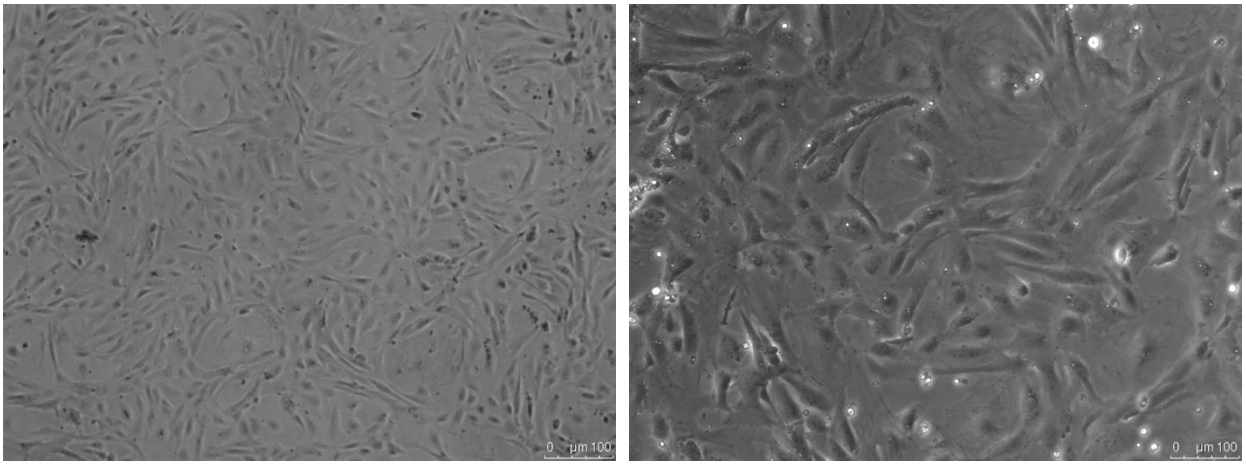

Figure 4. Monolayer of Rat Sertoli Cells was formed 2 days after feeding with Rat Sertoli Cells Complete Medium at day 12. **(Left):** 50x magnification; **(Right):** 100x magnification.

References

[1] Chui K, Trivedi A, Cheng C, Cherbavaz, Dazin P, Huynh A, Mitchell J, Rabinovich G, Noble-Haeusslein L, John C. (2011) "Characterization and functionality of proliferative human Sertoli cells." Cell Transplant. 20(5): 619-635.

[2] Sharpe R, McKinnell C, Kivlin C, Fisher J. (2003) "Proliferation and functional maturation of Sertoli cells, and their relevance to disorders of testis function in adulthood." Reproduction. 125: 769-784.

[3] Tarulli G, Stanton P, Meachem S. (2012) "Is the adult Sertoli cell terminally differentiated" Biol Reprod. 87(1): 1-11.

[3] Burgess, M. L., Terracio, L, Hirozane, T., Borg, T. K. (2002) Differential integrin expression by cardiac fibroblasts from hypertensive and exercise-trained rat hearts. Cardiovasc Pathol 11(2):78-87.

Disclaimers