

Human Sertoli Cells (HSerC)

SKU: 10HU-149

PRODUCT SHEET

PRODUCT DESCRIPTION

Human Sertoli Cells (HSerC) are essential for testicular development, spermatogenesis, and formation of the blood-testis barrier ^[1,2]. HSerC limit the passage of substances such as hormones and nutrients to the adluminal compartment of the seminiferous tubules ^[1]. In addition to forming the blood-testis barrier, HSerC also provide the main structural support for the seminiferous tubules and protect the germ cells from the immune system ^[1]. Aberrant HSerC proliferation can contribute to the development of male reproductive disorders such as testicular germ-cell cancer, cryptorchidism, hypospadias, and low sperm count ^[2]. HSerC proliferation is in part controlled by follicle-stimulating hormone (FSH) and thyroid hormone (TH), where FSH drives proliferation and TH promotes a more quiescent state ^[3]. Cultured HSerC are a useful in vitro model to better understand testicular dysgenesis syndrome and to develop treatments for male reproductive disorders.

Product Details

Catalog Number: 10HU-149

Organism: *Homo Sapiens*, Human

Cell Type: Epithelial Supporting Cells

Tissue: Human Testis

Disease: Normal

Package Size: 1.5 x 10⁶ cells/vial

Passage Number: P1

Growth Properties: Adherent

Associated Media: Sertoli Cell Growth Medium (SKU: MD-0091)

Storage Conditions & Shipment

Product Format/Shipped: Cryopreserved

Storage: Liquid Nitrogen

For Research Use Only

iXCells Biotechnologies USA, Inc.
United States

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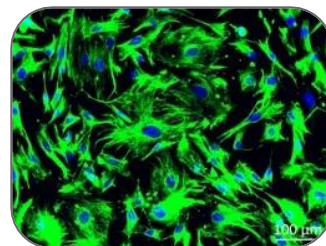
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RELATED PRODUCTS



Rat Sertoli Cells

SKU: 10RA-038



Sertoli Cell Growth Medium

SKU: MD-0091

Overview of Human Sertoli Cells (HSerC)

iXCells Biotechnologies provides high quality HSerC, which are isolated from human testis and cryopreserved at P1, with ≥ 1.5 million cells in each vial. HSerC express GATA-4 and Sox-9 and are negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast, and fungi. They can further expand for no more than 3 passages in Sertoli Cell Growth Medium (Cat# MD-0091) under the condition suggested by iXCells Biotechnologies. Further expansion may decrease the purity.

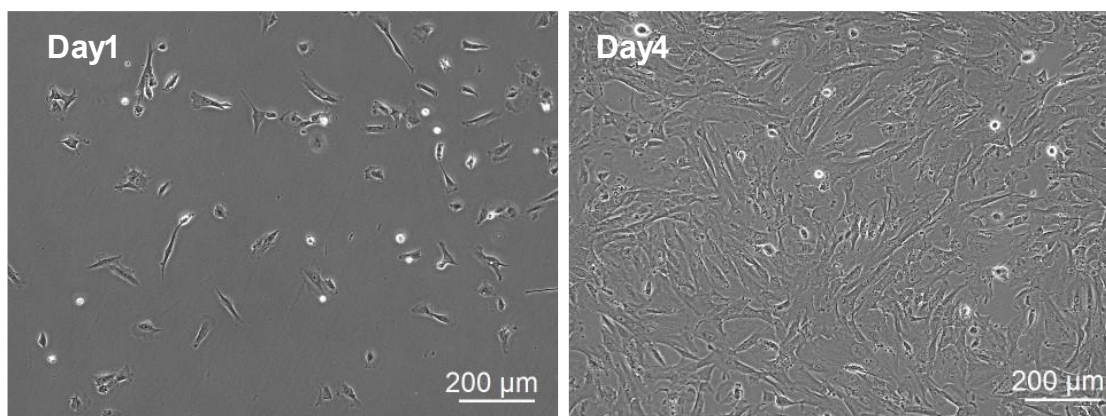


Figure 1. Human Sertoli Cells (HSerC). The cells were recovered, and seeded at 10,000 cells/cm² following iXCells' protocol. Phase contrast images were taken at the indicated time post recovery.

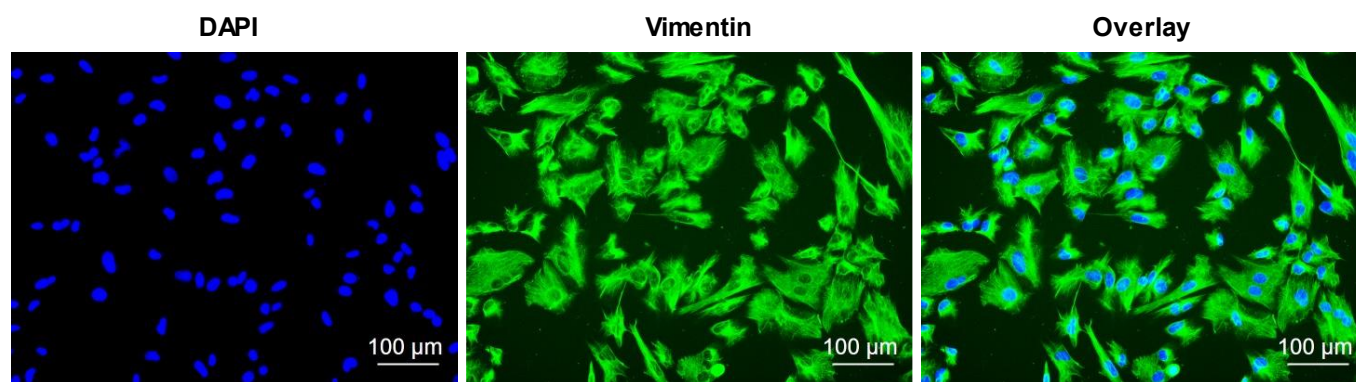


Figure 2. Immunofluorescence staining of HSerC with antibody against Vimentin (Green). Nuclei were counterstained by DAPI (Blue).

QuickStart Guide – Protocols

NOTE: IXCELLS CELLS MUST BE CULTURED IN A 37°C, 5% CO₂ INCUBATOR. CELLS ARE ONLY WARRANTED IF IXCELLS MEDIA AND REAGENTS ARE USED AND THE RECOMMENDED PROTOCOLS ARE FOLLOWED.

Cell Thawing – Frozen Cells

1. Upon receipt of the frozen cells, it is recommended to thaw the cells and initiate the culture immediately in order to retain the highest cell viability.
2. To thaw the cells, put the vial in 37°C water bath with gentle agitation for 1-2 minutes. Keep the cap out of water to minimize the risk of contamination.
3. Pipette the cells into a 15 mL conical tube with 5 mL fresh Sertoli Cell Growth Medium (Cat# MD-0091).
4. Centrifuge at 350 g for 5 minutes under room temperature.
5. Remove the supernatant and resuspend the cells in fresh Sertoli Cell Growth Medium.
6. Seed the cells in desired culture vessel at 5,000-10,000 cells/cm². Change the medium every other day until cells reach 80-90% confluence.

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

Subculture Procedure

1. HSerCs can be sub-cultured in Sertoli Cell Growth Medium (Cat# MD-0091).
2. When cells reach ~80-90% confluence, remove the medium, and wash once with sterile DPBS (5 mL for one T75 flask).
3. Add 3 mL of 0.25% Trypsin-EDTA to the flask and incubate for 5 minutes at 37°C. Neutralize the enzyme by adding 2-3 volumes of cell culture medium.
4. Centrifuge 350 g for 5 minutes and resuspend the cells in desired volume of medium.
5. Seed the cells in the new culture vessels at 50,000-10,000 cells/cm². Change the medium every other day until cells reach 80-90% confluence.

Note: Penicillin-Streptomycin, Antibiotics and antimycotics, or other antibiotics can be optional in the culture media. iXCells in house test was performed under antibiotics free condition for ≥ 3 days by following the recommended protocol, and no bacterial or fungi contamination were observed during the culture period.

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.
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Disclaimers

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