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Product Information

Human Sertoli Cells (HSerC)

Catalog Number	10HU-149	Cell Number	1.5 million cells/vial
Species	*Homo sapiens*	Storage Temperature	Liquid nitrogen

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.

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 16 population doublings in Sertoli Cell Growth Medium (Cat# MD-0091) under the condition suggested by iXCells Biotechnologies.

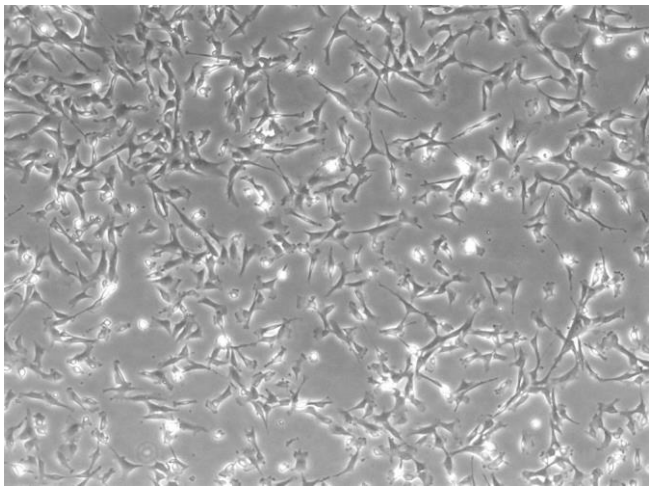

Figure 1. Human Sertoli Cells (phase contrast).

Product Details

Tissue	Human testis
Package Size	1.5 million cells/vial
Passage Number	P1
Shipped	Cryopreserved
Storage	Liquid nitrogen
Growth Properties	Adherent
Media	Sertoli Cell Growth Medium (Cat# MD-0091)

Protocols

Thawing of Frozen Cells

1. Prepare poly-L-lysine coated culture vessels (2 µg/cm^2). Leave the coated vessel in incubator overnight (minimum one hour at 37^{o}C incubator).
2. Upon receipt of the frozen HSerC, it is recommended to thaw the cells and initiate the culture immediately in order to retain the highest cell viability.
3. 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.
4. Carefully transfer the cells into a 15 mL conical tube with ~5 mL fresh **Sertoli Cell Growth Medium (Cat# MD-0091)**. Gently re-suspend and dispense the contents.
5. Transfer the cells into the poly-L-lysine coated culture vessels. A seeding density of 5,000 cells/cm^2 is recommended
6. Return the culture vessels to 37°C incubator (5% CO_2) for continuous culture.
7. For the best result, do not disturb the culture for at least 16 hours after the culture has been initiated. Refresh culture medium the next day to remove unattached cells, then every other day thereafter.

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

Standard Culture Procedure

1. HSerC should be maintained in the **Sertoli Cell Growth Medium (Cat# MD-0091)**.
2. Change the medium every other day until cells reach ~90% confluence.
3. Remove the medium, and wash once with sterile PBS (5 mL/T75 flask).
4. Add ~3 mL of 0.25% Trypsin-EDTA to the flask and incubate for 3-5 min at 37°C. Neutralize the enzyme by adding 6-9 mL culture medium.

5. Centrifuge at 1,000 rpm (~220 g) for 5 min, and re-suspend the cells in desired volume of culture medium.
6. Transfer the cells to the poly-L-lysine coated culture vessels with the recommend cell density.

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