

- Spencer T.E., Hayashi K., Hu J., Carpenter K.D.* 2005. Comparative developmental biology of the mammalian uterus. *Curr. Top Dev. Biol.* V. 68. P. 85.
- Spitzer T.L., Rojas A., Zelenko Z., Aghajanova L., Erikson D.W., Barragan F., Meyer M., Tamaresis J.S., Hamilton A.E., Irwin J.C.* 2012. Perivascular human endometrial mesenchymal stem cells express pathways relevant to self-renewal, lineage specification, and functional phenotype. *Biol. Reprod.* V. 86. P. 58.
- Tsuji S., Yoshimoto M., Takahashi K., Noda Y., Nakahata T., Heike T.* 2008. Side population cells contribute to the genesis of human endometrium. *Fertil. Steril.* V. 90. P. 1528.
- Ulrich D., Tan K.S., Deane J., Schwab K., Cheong A., Rosamilia A., Gargett C.E.* 2014. Mesenchymal stem/stromal cells in postmenopausal endometrium. *Human Reprod.* V. 29. P. 1895.
- Valentijn A.J., Palial K., Al-Lamee H., Tempest N., Drury J., Von Zglinicki T., Saretzki G., Murray P., Gargett C.E., Hapan-gama D.K.* 2013. SSEA-1 isolates human endometrial basal glandular epithelial cells: Phenotypic and functional characterization and implications in the pathogenesis of endometriosis. *Hum. Reprod.* V. 28. P. 2695.
- Wolff E.F., Wolff A.B., Hongling D., Taylor H.S.* 2007. Demonstration of multipotent stem cells in the adult human endometrium by *in vitro* chondrogenesis. *Reprod. Sci.* V. 14. P. 524.
- Wright A.J., Andrews P.W.* 2009. Surface marker antigens in the characterization of human embryonic stem cells. *Stem Cell Res.* V. 3. P. 3.
- Wu X., Luo Y., Chen J., Pan R., Xiang B., Du X., Xiang L., Shao J., Xiang C.* 2014. Transplantation of human menstrual blood progenitor cells improves hyperglycemia by promoting endogenous progenitor differentiation in type 1 diabetic mice. *Stem Cells Dev.* V. 23. P. 1245.
- Zuk P.A., Zhu M., Ashjian P., De Ugarte D.A., Huang J.I., Mizuno H., Alfonso Z.C., Fraser J.K., Benhaim P., Hedrick M.H.* 2002. Human adipose tissue is a source of multipotent stem cells. *Mol. Biol. Cell.* V. 13. P. 4279.

CELLULAR COMPOSITION OF CULTURES DERIVED FROM ENDOMETRIAL TISSUE

A. P. Domnina^{a,*} and M. A. Petrosyan^b

^a*Institute of Cytology Russian Academy of Sciences, St. Petersburg, 194064 Russia*

^b*Ott Research Institute of Obstetrics, Gynecology and Reproductology, St. Petersburg, 199034 Russia*

**e-mail: aldomnina@mail.ru*

One of the key stages in the onset of pregnancy is embryo implantation and placenta development. These processes are provided by the ability of the stromal cells of the endometrium to transform into decidual cells. In women in the reproductive period, under the influence of sex steroid hormones estrogen and progesterone synthesized in the ovaries, the endometrium undergoes peel and repair. The high regenerative potential of the endometrium is possible due to the presence of stem cells in it. Modern technologies allow these cells to be isolated and cultured *in vitro*. Knowledge of endometrial stem cell properties is important in various pathological conditions that can lead to endometrial function disorder and infertility. This review examines the properties of endometrial cells in various methods of their preparation.

Keywords: human endometrium, mesenchymal stem cells, menstrual cycle