

October 1, 2014; 91 (4)

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Charlotte Schubert

WORLD OF REPRODUCTIVE BIOLOGY

Biol Reprod October 2014 91 (4) 81, 1-3; doi:10.1095/biolreprod.114.124339

[Full Text](#) [Full Text \(PDF\)](#)**Commentary**

T. Rajendra Kumar

Extragonadal FSH Receptor: Is It Real?

Biol Reprod October 2014 91 (4) 99, 1-4; published ahead of print August 20, 2014, doi:10.1095/biolreprod.114.124222

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

Summary: Stillely and colleagues present their remarkable findings on FSHR expression in the human female reproductive tract and developing placenta and fetoplacental defects in an *Fshr* mutant mouse model.

Minireview Paula Díaz, Theresa L. Powell, and Thomas Jansson**The Role of Placental Nutrient Sensing in Maternal-Fetal Resource Allocation**

Biol Reprod October 2014 91 (4) 82, 1-10; published ahead of print August 13, 2014, doi:10.1095/biolreprod.114.121798

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

Summary: The placenta integrates a multitude of maternal and fetal cues with information from intrinsic nutrient sensing signaling pathways to match fetal demand with maternal supply, thereby ensuring optimal allocation of resources between the mother and the fetus during pregnancy.

 Nick S. Macklon and Jan J. Brosens**The Human Endometrium as a Sensor of Embryo Quality**

Biol Reprod October 2014 91 (4) 98, 1-8; published ahead of print September 3, 2014, doi:10.1095/biolreprod.114.122846

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

Summary: The recently ascribed biosensor function of human endometrium represents a strategy to prevent invasive but poorly viable embryos from implanting, thus limiting maternal investment in a pregnancy destined to fail.

[Clear](#) [Get All Checked Abstracts](#)**Research Articles****Female Reproductive Tract** Keely Pierzchalski, Robert N. Taylor, Ceana Nezhath, Jace W. Jones, Joseph L. Napoli, Guixiang Yang, Maureen A. Kane, and Neil Sidell**Retinoic Acid Biosynthesis Is Impaired in Human and Murine Endometriosis**

Biol Reprod October 2014 91 (4) 84, 1-9; published ahead of print August 20, 2014, doi:10.1095/biolreprod.114.119677

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

Summary: Impaired synthesis of all-*trans* retinoic acid caused by reduced expression of cellular retinol-binding protein type 1 is involved in the pathophysiology of endometriosis.

[Clear](#) [Get All Checked Abstracts](#)**Gamete Biology** Angus D. Macaulay, Isabelle Gilbert, Julieta Caballero, Rodrigo Barreto, Eric Fournier, Prudencio Tossou, Marc-André Sirard, Hugh J. Clarke, Édouard W. Khar**The Gametic Synapse: RNA Transfer to the Bovine Oocyte**

Biol Reprod October 2014 91 (4) 90, 1-12; published ahead of print August 20, 2014, doi:10.1095/biolreprod.114.119867

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

Summary: Oocytes rely on the surrounding cumulus cells to complete their RNA reserves, which are required for oocyte maturation through transzonal projections: a synapselike system.

 Qinbo Qin, Yude Wang, Juan Wang, Jing Dai, Jun Xiao, Fangzhou Hu, Kaikun Luo, Min Tao, Chun Zhang, Yun Liu, and Shaojun Liu**The Autotetraploid Fish Derived from Hybridization of *Carassius auratus red var.* (Female) × *Megalobrama amblycephala* (Male)**

Biol Reprod October 2014 91 (4) 93, 1-11; published ahead of print August 27, 2014, doi:10.1095/biolreprod.114.122283

[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#)
[OPEN ACCESS ARTICLE](#)

Summary: The autotetraploid fish line provides an ideal system to produce diploid gametes and to investigate the poorly understood mechanisms that drive diploidization in autotetraploids.

- Meiping Tian, Huaqiong Bao, Francis L. Martin, Jie Zhang, Liangpo Liu, Qingyu Huang, and Heqing Shen

Association of DNA Methylation and Mitochondrial DNA Copy Number with Human Semen Quality

Biol Reprod October 2014 91 (4) 101, 1-8; published ahead of print September 10, 2014, doi:10.1095/biolreprod.114.122465

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

Summary: Altered mitochondrial DNA copy number and DNA methylation may serve as genetic and epigenetic markers to assess human sperm quality together with CASA parameters.

Ovary

- Olivier Monestier, Bertrand Servin, Sylvain Auclair, Thomas Bourquard, Anne Poupon, Géraldine Pascal, and Stéphane Fabre

Evolutionary Origin of Bone Morphogenetic Protein 15 and Growth and Differentiation Factor 9 and Differential Selective Pressure Between Mono- and Polyovulating Species

Biol Reprod October 2014 91 (4) 83, 1-13; published ahead of print August 6, 2014, doi:10.1095/biolreprod.114.119735

[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)
[OPEN ACCESS ARTICLE](#)

Summary: BMP15 and GDF9 protein harbor some segments affected by a variable selective pressure depending on the ovulation rate status and which are possibly implicated in homodimer/heterodimer equilibrium; BMP15/GDF9 and BMP3/GDF10 diverge from a common ancestral gene.

- Jackson Nteeba, Shanthi Ganesan, and Aileen F. Keating

Progressive Obesity Alters Ovarian Folliculogenesis with Impacts on Pro-Inflammatory and Steroidogenic Signaling in Female Mice

Biol Reprod October 2014 91 (4) 86, 1-11; published ahead of print August 20, 2014, doi:10.1095/biolreprod.114.121343

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

Summary: Changes to ovarian folliculogenesis along with steroidogenic and inflammatory pathways are observed with progressive obesity.

- Nadéra Mansouri-Attia, Rebecca James, Alysse Ligon, Xiaohui Li, and Stephanie A. Pangas

Soy Promotes Juvenile Granulosa Cell Tumor Development in Mice and in the Human Granulosa Cell Tumor-Derived COV434 Cell Line

Biol Reprod October 2014 91 (4) 100, 1-10; published ahead of print August 27, 2014, doi:10.1095/biolreprod.114.120899

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

Summary: Dietary soy contributes to juvenile granulosa cell progression in *Smad1 Smad5* dKO by upregulating ESR1 and altering cellular apoptosis.

Pregnancy

- Han Li, Dawei Qu, Angela McDonald, Sarah M. Isaac, Kathie J. Whiteley, Hoon-Ki Sung, Andras Nagy, and S. Lee Adamson

Trophoblast-Specific Reduction of VEGFA Alters Placental Gene Expression and Maternal Cardiovascular Function in Mice

Biol Reprod October 2014 91 (4) 87, 1-12; published ahead of print August 13, 2014, doi:10.1095/biolreprod.114.118299

[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)
[OPEN ACCESS ARTICLE](#)

Summary: Targeted deletion of *Vegfa* from trophoblast at the relatively avascular maternal-fetal interface in mice primarily altered maternal cardiovascular function likely via an endocrine mechanism.

- Guilherme Pugliesi, Bruna T. Miagawa, Yasmin N. Paiva, Moana R. França, Luciano A. Silva, and Mario Binelli

Conceptus-Induced Changes in the Gene Expression of Blood Immune Cells and the Ultrasound-Accessed Luteal Function in Beef Cattle: How Early Can We Detect Pregnancy?

Biol Reprod October 2014 91 (4) 95, 1-12; published ahead of print September 10, 2014, doi:10.1095/biolreprod.114.121525

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

Summary: Conceptus-induced changes in the gene expression of blood immune cells and ultrasound-accessed luteal function in beef cows during early pregnancy were used to establish accuracy of early

pregnancy diagnosis methods.

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Reproductive Technology

- Mito Kanatsu-Shinohara, Narumi Ogonuki, Shogo Matoba, Hiroko Morimoto, Atsuo Ogura, and Takashi Shinohara
Improved Serum- and Feeder-Free Culture of Mouse Germline Stem Cells
 Biol Reprod October 2014 91 (4) 88, 1-11; published ahead of print September 10, 2014, doi:10.1095/biolreprod.114.122317
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)
Summary: An improved method to culture spermatogonial stem cells under serum-free conditions was developed.
- Tomonari Hayama, Tomoyuki Yamaguchi, Megumi Kato-Itoh, Sanae Hamanaka, Mami Kawarai, Makoto Sanbo, Chihiro Tamura, Youn-Su Lee, Ayaka Yanagida
Generation of Mouse Functional Oocytes in Rat by Xeno-Ectopic Transplantation of Primordial Germ Cells
 Biol Reprod October 2014 91 (4) 89, 1-9; published ahead of print August 27, 2014, doi:10.1095/biolreprod.114.121640
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)
Summary: Functional oocytes were developed in ovary-like tissue which was generated by xeno-ectopic transplantation of reagggregates of enzymatically dispersed PGC and PGC-free gonadal cells.
- John F. Odhiambo, J.M. DeJarnette, Thomas W. Geary, Chelsey E. Kennedy, Susan S. Suarez, Miriam Sutovsky, and Peter Sutovsky
Increased Conception Rates in Beef Cattle Inseminated with Nanopurified Bull Semen
 Biol Reprod October 2014 91 (4) 97, 1-10; published ahead of print September 17, 2014, doi:10.1095/biolreprod.114.121897
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)
Summary: Nanoparticle-based magnetic purification removes defective spermatozoa, improves sperm viability, increases conception rates, and allows reduction of sperm number per dose of bull semen used for artificial insemination.

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Testis

- Colleen M. Carney, Jessica L. Muszynski, Lindsay N. Strotman, Samantha R. Lewis, Rachel L. O'Connell, David J. Beebe, Ashleigh B. Theberge, and Joan S. J
Cellular Microenvironment Dictates Androgen Production by Murine Fetal Leydig Cells in Primary Culture
 Biol Reprod October 2014 91 (4) 85, 1-13; published ahead of print August 20, 2014, doi:10.1095/biolreprod.114.118570
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)
Summary: A combination of cell-cell contact and soluble factors constitute the ideal microenvironment for fetal Leydig cell activity in culture.
- Aude Gautier, Adrien Bosseboeuf, Pierrick Auvray, and Pascal Sourdain
Maintenance of Potential Spermatogonial Stem Cells In Vitro by GDNF Treatment in a Chondrichthyan Model (*Scyliorhinus canicula* L.)
 Biol Reprod October 2014 91 (4) 91, 1-15; published ahead of print August 20, 2014, doi:10.1095/biolreprod.113.116020
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#)
Summary: In a chondrichthyan model, the spermatogonia contained in the testicular germinative area were maintained in culture in vitro and showed an increased colony formation, stemness marker expression and a lower apoptosis level in response to GDNF.
- Nicole Parker, Hayley Falk, Dolly Singh, Anthony Fidaleo, Benjamin Smith, Michael S. Lopez, Kevan M. Shokat, and William W. Wright
Responses to Glial Cell Line-Derived Neurotrophic Factor Change in Mice as Spermatogonial Stem Cells Form Progenitor Spermatogonia which Replicate and Give Rise to More Differentiated Progeny
 Biol Reprod October 2014 91 (4) 92, 1-9; published ahead of print August 27, 2014, doi:10.1095/biolreprod.114.119099
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)
Summary: The response to GDNF changes as spermatogonial stem cells produce progenitors that subsequently replicate and give rise to more differentiated progeny.
- Johanna Bellaïche, Anne-Sophie Goupil, Elisabeth Sambroni, Jean-Jacques Lareyre, and Florence Le Gac
Gdnf-Gfra1 Pathway Is Expressed in a Spermatogenetic-Dependent Manner and Is Regulated by Fsh in a Fish Testis
 Biol Reprod October 2014 91 (4) 94, 1-12; published ahead of print August 27, 2014, doi:10.1095/biolreprod.114.119834
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)
Summary: *gfra1a1*, expressed by a subpopulation of undifferentiated

A-spermatogonia, and its probable ligand, Gdnfb, are regulated during spermatogenetic development and partly controlled by Fsh in trout testis.

- Malena B. Rone, Andrew S. Midzak, Daniel B. Martinez-Arguelles, Jinjiang Fan, Xiaoying Ye, Josip Blonder, and Vassilios Papadopoulos
Steroidogenesis in MA-10 Mouse Leydig Cells Is Altered via Fatty Acid Import into the Mitochondria

Biol Reprod October 2014 91 (4) 96, 1-14; published ahead of print September 10, 2014, doi:10.1095/biolreprod.114.121434

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

Summary: The bioenergetics of the MA-10 mouse Leydig cell mitochondria regulates the cells' ability to synthesize steroids.