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World of Reproductive Biology

Charlotte Schubert

The Ovary's Event Coordinator

Biol Reprod May 2015 92 (5) 111, 1-1; published ahead of print February 4, 2015, doi:10.1095/biolreprod.115.128900

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Charlotte Schubert

Long Non-Coding RNAs Take Aim at Methyl Marks in Early Embryo

Biol Reprod May 2015 92 (5) 112, 1-1; published ahead of print February 11, 2015, doi:10.1095/biolreprod.115.129080

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Charlotte Schubert

Dark RNA of the Early Embryo

Biol Reprod May 2015 92 (5) 113, 1-1; published ahead of print February 18, 2015, doi:10.1095/biolreprod.115.129304

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Charlotte Schubert

Mom's Maxed-Out Mitochondria

Biol Reprod May 2015 92 (5) 114, 1-1; published ahead of print February 25, 2015, doi:10.1095/biolreprod.115.129429

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Commentary

Chen Zhang and Ji Wu

Retinoid Acid: The Trigger for the Cycle of the Seminiferous Epithelium in the Adult Testis?

Biol Reprod May 2015 92 (5) 115, 1-2; published ahead of print March 25, 2015, doi:10.1095/biolreprod.115.129841

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

Summary: To build upon the indirect evidence generated by mRNA and protein localization patterns within seminiferous tubules, a report by Griswold and colleagues employed a quantitative method to directly measure RA levels in the postnatal testis.

F. Kent Hamra

Diagnosing Spermatogonial Stemness

Biol Reprod May 2015 92 (5) 119, 1-4; published ahead of print March 25, 2015, doi:10.1095/biolreprod.115.129890

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

Summary: Hermann and colleagues report a strategy to dissect the diversity of mouse spermatogonial types during a pivotal time in gametogenesis, immediately following the transition from "prespermatogenesis" to "spermatogenesis."

Minireview

- Emanuele Pelosi, Eleanor Simonsick, Antonino Forabosco, Jose Elias Garcia-Ortiz, and David Schlessinger

Dynamics of the Ovarian Reserve and Impact of Genetic and Epidemiological Factors on Age of Menopause

Biol Reprod May 2015 92 (5) 130, 1-9; published ahead of print April 22, 2015, doi:10.1095/biolreprod.114.127381

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

Summary: This review describes how the ovarian reserve is established and what factors play a role in time of normal and early menopause and primary ovarian insufficiency with emphasis on genetic and epidemiological players.

- Alison Y. Ting and Brian K. Petroff

Challenges and Potential for Ovarian Preservation with SERMs

Biol Reprod May 2015 92 (5) 133, 1-8; published ahead of print March 25, 2015, doi:10.1095/biolreprod.115.128207

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

Summary: This review encompasses current and novel uses of selective estrogen receptor modulators and advantages and challenges for translation of tamoxifen for fertility preservation.

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Research Articles

Embryo

- Deirdre L. Zander-Fox, Tod Fullston, Nicole O. McPherson, Lauren Sandeman, Wan Xian Kang, Suzanne B. Good, Marni Spillane, and Michelle Lane
Reduction of Mitochondrial Function by FCCP During Mouse Cleavage Stage Embryo Culture Reduces Birth Weight and Impairs the Metabolic Health of Offspring
Biol Reprod May 2015 92 (5) 124, 1-11; published ahead of print February 25, 2015, doi:10.1095/biolreprod.114.123489
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)
- Summary:** Impairment of mitochondrial function in the precompacting embryo results in decreased female offspring birth weight and altered metabolic health.

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Female Reproductive Tract

- Noelle M. Marsh, Angela Wareham, Bryan G. White, Ewa I. Miskiewicz, Jacques Landry, and Daniel J. MacPhee
HSPB8 and the Cochaperone BAG3 Are Highly Expressed During the Synthetic Phase of Rat Myometrium Programming During Pregnancy
Biol Reprod May 2015 92 (5) 131, 1-12; published ahead of print April 22, 2015, doi:10.1095/biolreprod.114.125401
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#)
- Summary:** HSPB8 and BAG3 expression are induced in pregnant rat myometrium and could have an important proteostatic role during the synthetic phase of myometrial differentiation marked by myometrial hypertrophy.

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Gamete Biology

- Kylie R. Dunning, Laura N. Watson, Voueleng J. Zhang, Hannah M. Brown, Adrian K. Kaczmarek, Rebecca L. Robker, and Darryl L. Russell
Activation of Mouse Cumulus-Oocyte Complex Maturation In Vitro Through EGF-Like Activity of Versican
Biol Reprod May 2015 92 (5) 116, 1-10; published ahead of print March 25, 2015, doi:10.1095/biolreprod.114.127274
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)
- Summary:** Versican induces cumulus expansion and has EGF-like effects on cumulus-oocyte complex gene expression, but with distinct temporal characteristics.
- Jessica Escoffier, Felipe Navarrete, Doug Haddad, Celia M. Santi, Alberto Darszon, and Pablo E. Visconti
Flow Cytometry Analysis Reveals That Only a Subpopulation of Mouse Sperm Undergoes Hyperpolarization During Capacitation
Biol Reprod May 2015 92 (5) 121, 1-11; published ahead of print April 8, 2015, doi:10.1095/biolreprod.114.127266
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)
- Summary:** Only a subpopulation of capacitated mouse sperm undergoes hyperpolarization during capacitation; these changes in the sperm membrane potential appear to be downstream of a cAMP-dependent pathway and mediated by SLO3 K⁺ channels.
- Ke-Qian Di, Shuai Gao, Li-Fang Cui, Gang Chang, Fu-Jia Wu, Li-Kun Ren, Lei An, Kai Miao, Kun Tan, Li Tao, Hui Chen, Zhi-Long Wang, Shu-Min Wang, Zhong
Generation of Fully Pluripotent Female Murine-Induced Pluripotent Stem Cells
Biol Reprod May 2015 92 (5) 123, 1-8; published ahead of print March 18, 2015, doi:10.1095/biolreprod.114.124958
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#)
- Summary:** A gender-mixed induction strategy could lead to a skewed sex ratio of iPSCs and generate the fully pluripotent female induced pluripotent stem cells.
- Joanna B. Aitken, Nenad Naumovski, Ben Curry, Christopher G. Grupen, Zamira Gibb, and R. John Aitken
Characterization of an L-Amino Acid Oxidase in Equine Spermatozoa
Biol Reprod May 2015 92 (5) 125, 1-13; published ahead of print March 4, 2015, doi:10.1095/biolreprod.114.126052
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#)
- Summary:** An L-amino acid oxidase present in equine spermatozoa, which is located in the sperm head, is responsive to aromatic amino acids and is particularly active in nonviable cells.
- André Monteiro da Rocha, Jun Ding, Nicole Slawny, Amber M. Wolf, and Gary D. Smith
Loss of Glycogen Synthase Kinase 3 Isoforms During Murine Oocyte Growth Induces Offspring Cardiac Dysfunction
Biol Reprod May 2015 92 (5) 127, 1-12; published ahead of print April 1, 2015, doi:10.1095/biolreprod.115.128181
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)

Summary: Absence of both glycogen synthase kinase 3 isoforms in the oocyte during late stages of oogenesis does not influence fertility but impairs fetal development and offspring survival.

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Mechanisms of Hormone Action

- Manjunatha K. Nanjappa, Theresa I. Medrano, John P. Lydon, Robert M. Bigsby, and Paul S. Cooke

Maximal Dexamethasone Inhibition of Luminal Epithelial Proliferation Involves Progesterone Receptor (PR)- and Non-PR-Mediated Mechanisms in Neonatal Mouse Uterus

Biol Reprod May 2015 92 (5) 122, 1-9; published ahead of print April 16, 2015, doi:10.1095/biolreprod.114.123463

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

Summary: Maximal inhibition of uterine epithelial proliferation by dexamethasone requires progesterone receptor, but also involves nonprogesterone receptor mediated signaling, as shown by Dex inhibition of uterine epithelial proliferation in PRKO mice.

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Ovary

- Nickie L. Seto and Randy L. Bogan

Decreased Cholesterol Uptake and Increased Liver X Receptor-Mediated Cholesterol Efflux Pathways During Prostaglandin F2 Alpha-Induced and Spontaneous Luteolysis in Sheep

Biol Reprod May 2015 92 (5) 128, 1-9; published ahead of print April 16, 2015, doi:10.1095/biolreprod.114.124941

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

Summary: Prostaglandin F2 alpha decreases expression of lipoprotein receptors responsible for extracellular cholesterol uptake and enhances liver x receptor activity leading to increased expression of a key cholesterol efflux transporter during induced and spontaneous luteolysis.

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Pregnancy

- Xiaofang Tang, Yongjie Chen, Hao Ran, Yufei Jiang, Bo He, Bingyan Wang, Shuangbo Kong, and Haibin Wang

Systemic Morphine Treatment Derails Normal Uterine Receptivity, Leading to Embryo Implantation Failure in Mice

Biol Reprod May 2015 92 (5) 118, 1-9; published ahead of print April 8, 2015, doi:10.1095/biolreprod.115.128686

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

Summary: Aberrant activation of opioid signaling by morphine induces an impaired luminal epithelial differentiation, decreased stromal cell proliferation, and poor angiogenesis, thus hampering uterine receptivity and embryo implantation.

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Testis

- Viswanadhapalli Suryavathi, Subbarayalu Panneerdoss, Michael J. Wolkowicz, Jagathpala Shetty, Nicholas E. Sherman, Charles J. Flickinger, and John C. Her

Dynamic Changes in Equatorial Segment Protein 1 (SPESP1) Glycosylation During Mouse Spermiogenesis

Biol Reprod May 2015 92 (5) 129, 1-16; published ahead of print March 11, 2015, doi:10.1095/biolreprod.114.121095

[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Figures](#)
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Summary: Intra-acrosomal sperm equatorial segment protein 1 (SPESP1) displays protein microheterogeneity and mass changes within the testis due to glycosylation and deglycosylation.

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Toxicology

- Patrick R. Hannon, Katherine E. Brannick, Wei Wang, and Jodi A. Flaws
Mono(2-Ethylhexyl) Phthalate Accelerates Early Folliculogenesis and Inhibits Steroidogenesis in Cultured Mouse Whole Ovaries and Antral Follicles

Biol Reprod May 2015 92 (5) 120, 1-11; published ahead of print March 25, 2015, doi:10.1095/biolreprod.115.129148

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

Summary: Mono(2-ethylhexyl) phthalate directly accelerates primordial follicle recruitment via over-activation of phosphatidylinositol 3-kinase signaling and decreases the levels of steroidogenic enzymes responsible for synthesizing estradiol.

Joanna Piasecka-Srader, Fernando F. Blanco, Devora H. Delman, Dan A. Dixon, James L. Geiser, Renata E. Ciereszko, and Brian K. Petroff

Tamoxifen Prevents Apoptosis and Follicle Loss from Cyclophosphamide in Cultured Rat Ovaries

Biol Reprod May 2015 92 (5) 132, 1-8; published ahead of print April 1, 2015, doi:10.1095/biolreprod.114.126136

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

[OPEN ACCESS ARTICLE](#)

Summary: Tamoxifen prevents follicular depletion and apoptosis induced by chemotherapy drug cyclophosphamide in vitro through local anti-inflammatory mechanisms.

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Additions and Corrections

ADDITIONS AND CORRECTIONS

Biol Reprod May 2015 92 (5) 126, 1-1; published ahead of print April 22, 2015, doi:10.1095/biolreprod.115.130518

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

Retraction

Yong-Rui Piao and Zhe-Hu Jin

RETRACTIONS

Biol Reprod May 2015 92 (5) 117, 1-1; published ahead of print March 4, 2015, doi:10.1095/biolreprod.114.127191

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