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World of Reproductive Biology

Charlotte Schubert

Human Primordial Germ Cells in a Dish

Biol Reprod April 2015 92 (4) 83, 1-1; published ahead of print January 7, 2015, doi:10.1095/biolreprod.115.127993

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Charlotte Schubert

Pre-eclampsia Protectors and Promoters

Biol Reprod April 2015 92 (4) 84, 1-1; published ahead of print January 14, 2015, doi:10.1095/biolreprod.115.128223

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Charlotte Schubert

Endometriosis Takes a Hit

Biol Reprod April 2015 92 (4) 85, 1-1; published ahead of print January 21, 2015, doi:10.1095/biolreprod.115.128496

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Charlotte Schubert

Estrogens Addle Male Meiotic Cells

Biol Reprod April 2015 92 (4) 86, 1-1; published ahead of print January 28, 2015, doi:10.1095/biolreprod.115.128702

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Minireview

- Jenny N. Fung, Peter A.W. Rogers, and Grant W. Montgomery
Identifying the Biological Basis of GWAS Hits for Endometriosis
Biol Reprod April 2015 92 (4) 87, 1-12; published ahead of print February 18, 2015, doi:10.1095/biolreprod.114.126458
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Author Biosketches](#)

Summary: Genome-wide association studies are driving progress in understanding complex human diseases, and this review describes the approaches required to take results from genetic association studies to the next important phase of identifying the specific genes and pathways responsible for increased risk of endometriosis.

- Fanhui Zeng, Fajun Huang, Jingjing Guo, Xingchang Hu, Changbai Liu, and Hu Wang
Emerging Methods to Generate Artificial Germ Cells from Stem Cells
Biol Reprod April 2015 92 (4) 89, 1-9; published ahead of print February 25, 2015, doi:10.1095/biolreprod.114.124800
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#)

Summary: Germ cell derivation from different types of stem cells.

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Research Articles

Female Reproductive Tract

- Elena M. Kaftanovskaya, Zaohua Huang, Carolina Lopez, Kirk Conrad, and Alexander I. Agoulnik
Conditional Deletion of the Relaxin Receptor Gene in Cells of Smooth Muscle Lineage Affects Lower Reproductive Tract in Pregnant Mice
Biol Reprod April 2015 92 (4) 91, 1-9; published ahead of print February 25, 2015, doi:10.1095/biolreprod.114.127209
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#)
- Summary:** Ablation of the relaxin receptor in cells of smooth muscle lineage caused increased reproductive organ collagen density, vaginal and cervical epithelium deficiency, and a decrease in pubic symphysis dilation in late pregnant mouse females.
- Qiu-Xia Liang, Qing-Hua Zhang, Shu-Tao Qi, Zhong-Wei Wang, Meng-Wen Hu, Xue-Shan Ma, Min-Sheng Zhu, Heide Schatten, Zhen-Bo Wang, and Qing-Yuai
Deletion of *Mylk1* in Oocytes Causes Delayed Morula-to-Blastocyst Transition and Reduced Fertility Without Affecting Folliculogenesis and Oocyte Maturation in Mice
Biol Reprod April 2015 92 (4) 97, 1-9; published ahead of print March 11, 2015, doi:10.1095/biolreprod.114.122127
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)
[OPEN ACCESS ARTICLE](#)
- Summary:** Oocyte-specific deletion of MLCK does not affect follicular development, oocyte maturation, fertilization, and early embryo

development to the morula stage in the mouse but causes delayed blastocyst formation.

- Jemma Evans, Rebecca D'Sylva, Marianna Volpert, Duangporn Jamsai, Donna Jo Merriner, Guiying Nie, Lois A. Salamonsen, and Moira K. O'Bryan
Endometrial CRISP3 Is Regulated Throughout the Mouse Estrous and Human Menstrual Cycle and Facilitates Adhesion and Proliferation of Endometrial Epithelial Cells
Biol Reprod April 2015 92 (4) 99, 1-10; published ahead of print February 25, 2015, doi:10.1095/biolreprod.114.127480
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#)
Summary: CRISP3 localizes to the luminal and glandular epithelium of the human endometrium to neutrophils during endometrial breakdown and repair and facilitates epithelial proliferation.

- Lauren E. Peri, Byoung H. Koh, Grace K. Ward, Yulia Bayguinov, Sung Jin Hwang, Thomas W. Gould, Catrina J. Mullan, Kenton M. Sanders, and Sean M. War
A Novel Class of Interstitial Cells in the Mouse and Monkey Female Reproductive Tracts
Biol Reprod April 2015 92 (4) 102, 1-17; published ahead of print March 18, 2015, doi:10.1095/biolreprod.114.124388
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#)
Summary: A novel class of PDGFR α -positive interstitial cells found distributed throughout the female reproductive tract expresses gene transcripts that allow these cells to contribute to different aspects of physiological regulation in the anatomical niches they occupy.

- Brian L. Hood, Baoquan Liu, Addie Alkhas, Yutaka Shoji, Rusheeswar Challa, Guisong Wang, Susan Ferguson, Julie Oliver, Dave Mitchell, Nicholas W. Batem:
Proteomics of the Human Endometrial Glandular Epithelium and Stroma from the Proliferative and Secretory Phases of the Menstrual Cycle
Biol Reprod April 2015 92 (4) 106, 1-8; published ahead of print February 18, 2015, doi:10.1095/biolreprod.114.127217
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)
Summary: Proteomics of the individual epithelial cells and stromal compartments of the premenopausal endometrium identified numerous proteins associated with endometrial remodeling, many of which have not previously been described.

- Vijay Kumar, Vineet Kumar Maurya, Anubha Joshi, Syed Musthapa Meeran, and Rajesh Kumar Jha
Integrin Beta 8 (ITGB8) Regulates Embryo Implantation Potentially via Controlling the Activity of TGF- β 1 in Mice
Biol Reprod April 2015 92 (4) 109, 1-17; published ahead of print March 18, 2015, doi:10.1095/biolreprod.114.122838
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)
Summary: Inhibition of ITGB8 can compromise the implantation of embryo.

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Gamete Biology

- Sule Dogan, Peter Vargovic, Rodrigo Oliveira, Lauren E. Belser, Abdullah Kaya, Arlindo Moura, Peter Sutovsky, John Parrish, Einko Topper, and Erdoğan Mem
Sperm Protamine-Status Correlates to the Fertility of Breeding Bulls
Biol Reprod April 2015 92 (4) 92, 1-9; published ahead of print February 11, 2015, doi:10.1095/biolreprod.114.124255
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)
Summary: Sperm chromatin modulated by levels of protamine 1 is associated with bull fertility, a significant finding demonstrating paternal epigenome influencing early mammalian development and enhancing reproductive biotechnology.

- Yi-Bo Luo and Nam-Hyung Kim
PLK4 Is Essential for Meiotic Resumption in Mouse Oocytes
Biol Reprod April 2015 92 (4) 101, 1-8; published ahead of print March 4, 2015, doi:10.1095/biolreprod.114.124065
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)
Summary: PLK4 is critical for the nuclear accumulation of CDC25C and PLK1 and thus affects meiotic resumption in mouse oocytes.

- Yanbo Wang, Qiuling Li, Chunyi Liu, Feng Han, Min Chen, Lianjun Zhang, XiuHong Cui, Yan Qin, Shilai Bao, and Fei Gao
Protein Arginine Methyltransferase 5 (*Prrmt5*) Is Required for Germ Cell Survival During Mouse Embryonic Development
Biol Reprod April 2015 92 (4) 104, 1-10; published ahead of print March 25, 2015, doi:10.1095/biolreprod.114.127308
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)
Summary: This study demonstrated that *Prrmt5* is required for germ cell survival during fetal development.

- Ahmed Z. Balboula, Paula Stein, Richard M. Schultz, and Karen Schindler

RBBP4 Regulates Histone Deacetylation and Bipolar Spindle Assembly During Oocyte Maturation in the Mouse

Biol Reprod April 2015 92 (4) 105, 1-12; published ahead of print March 18, 2015, doi:10.1095/biolreprod.115.128298

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

Summary: RBBP4 regulates histone deacetylation during mouse oocyte meiotic maturation.

- Mark A. Baker, Anita Weinberg, Louise Hetherington, Ana-Izabel Villaverde, Tony Velkov, Jonathan Baell, and Christopher P. Gordon

Defining the Mechanisms by Which the Reactive Oxygen Species By-Product, 4-Hydroxynonenal, Affects Human Sperm Cell Function

Biol Reprod April 2015 92 (4) 108, 1-10; published ahead of print February 11, 2015, doi:10.1095/biolreprod.114.126680

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Summary: Low doses of 4-HNE stimulate PKA activity, then at higher doses, inhibits the enzymes activity.

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Immunology

- Abdorrahman S. Alghamdi, Scott Madill, Douglas N. Foster, and Mats H.T. Troedsson

Equine Sperm-Neutrophil Binding

Biol Reprod April 2015 92 (4) 94, 1-9; published ahead of print February 18, 2015, doi:10.1095/biolreprod.114.122655

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

Summary: P-Selectin is not involved in sperm-neutrophil binding, but some seminal plasma proteins bind to sperm with strong affinity.

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Mechanisms of Hormone Action

- Amanda L. Mereness, Zachary C. Murphy, and Michael T. Sellix

Developmental Programming by Androgen Affects the Circadian Timing System in Female Mice

Biol Reprod April 2015 92 (4) 88, 1-12; published ahead of print February 18, 2015, doi:10.1095/biolreprod.114.126409

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

Summary: Excess androgen during sexual development alters the circadian timing system due to a direct effect of steroid on the timing of the molecular clock.

- Hsien-Ming Wu, Hong-Yuan Huang, Chyi-Long Lee, Yung-Kuei Soong, Peter C.K. Leung, and Hsin-Shih Wang

Gonadotropin-Releasing Hormone Type II (GnRH-II) Agonist Regulates the Motility of Human Decidual Endometrial Stromal Cells: Possible Effect on Embryo Implantation and Pregnancy

Biol Reprod April 2015 92 (4) 98, 1-11; published ahead of print March 11, 2015, doi:10.1095/biolreprod.114.127324

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

Summary: GnRH-II regulates cell motility of decidual endometrial stromal in an experimental human model.

- Joseph E. Mazurkiewicz, Katharine Herrick-Davis, Margarida Barroso, Alfredo Ulloa-Aguirre, Barbara Lindau-Shepard, Richard M. Thomas, and James A. Dias

Single-Molecule Analyses of Fully Functional Fluorescent Protein-Tagged Follitropin Receptor Reveal Homodimerization and Specific Heterodimerization with Lutropin Receptor

Biol Reprod April 2015 92 (4) 100, 1-12; published ahead of print March 11, 2015, doi:10.1095/biolreprod.114.125781

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

Summary: FSHR/FSHR homodimerization and FSHR/LHR heterodimerization might have significant implications for both the physiology and the pharmacology of gonadotropin receptors during follicle maturation and differentiation, respectively.

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Pregnancy

- Daniel J. Mathew, Emily M. Newsom, Jennifer M. Guyton, Christopher K. Tuggle, Rodney D. Geisert, and Matthew C. Lucy

Activation of the Transcription Factor Nuclear Factor-Kappa B in Uterine Luminal Epithelial Cells by Interleukin 1 Beta 2: A Novel Interleukin 1 Expressed by the Elongating Pig Conceptus

Biol Reprod April 2015 92 (4) 107, 1-13; published ahead of print March 11, 2015, doi:10.1095/biolreprod.114.126128

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

Summary: The elongating pig conceptus expresses a novel interleukin 1 beta 2 (IL1B2) that activates nuclear factor-kappa B (NFkB) within the uterine luminal epithelium, likely establishing a controlled, proinflammatory microenvironment before implantation.

- Kaitlyn A. Chan, Angelica B. Bernal, Mark H. Vickers, Wajiha Gohir, Jim J. Petrik, and Deborah M. Sloboda

Early Life Exposure to Undernutrition Induces ER Stress, Apoptosis, and Reduced Vascularization in Ovaries of Adult Rat Offspring

Biol Reprod April 2015 92 (4) 110, 1-14; published ahead of print March 25, 2015, doi:10.1095/biolreprod.114.124149

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

Summary: Early life nutrient restriction induces ovarian ER stress, follicular apoptosis, and inflammation and results in reduced vessel density in adult offspring ovaries.

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Reproductive Technology

- Toru Takeo, Yuka Horikoshi, Satohiro Nakao, Kazuhito Sakoh, Yuta Ishizuka, Aki Tsutsumi, Kiyoko Fukumoto, Tomoko Kondo, Yukie Haruguchi, Yumi Takesh

Cysteine Analogs with a Free Thiol Group Promote Fertilization by Reducing Disulfide Bonds in the Zona Pellucida of Mice

Biol Reprod April 2015 92 (4) 90, 1-7; published ahead of print February 25, 2015, doi:10.1095/biolreprod.114.125443

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

Summary: Cysteine analogs with a thiol group enhance fertilization of oocytes by reducing disulfide bonds in the zona pellucida.

- Sergio D. German, Joon-Hee Lee, Keith H. Campbell, Dylan Sweetman, and Ramiro Alberio

Actin Depolymerization Is Associated with Meiotic Acceleration in Cycloheximide-Treated Ovine Oocytes

Biol Reprod April 2015 92 (4) 103, 1-9; published ahead of print March 18, 2015, doi:10.1095/biolreprod.114.122341

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Summary: Actin filament depolymerization during CHX arrest in mammalian oocytes accelerates meiotic progression during in vitro maturation.

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Testis

- Erin Legacki, Alan J. Conley, Barbara Jean Nitta-Oda, and Trish Berger

Porcine Sertoli Cell Proliferation after Androgen Receptor Inactivation

Biol Reprod April 2015 92 (4) 93, 1-7; published ahead of print February 25, 2015, doi:10.1095/biolreprod.114.125716

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

Summary: Androgens regulate the first postnatal wave of Sertoli cell proliferation in boars.

- Kang Xu, Ming Wen, Wei Duan, Li Ren, Fangzhou Hu, Jun Xiao, Jing Wang, Min Tao, Chun Zhang, Jun Wang, Yi Zhou, Yi Zhang, Yun Liu, and Shaojun Liu

Comparative Analysis of Testis Transcriptomes from Triploid and Fertile Diploid Cyprinid Fish

Biol Reprod April 2015 92 (4) 95, 1-12; published ahead of print March 11, 2015, doi:10.1095/biolreprod.114.125609

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

Summary: A comparative analysis of testis transcriptomes from diploid and triploid cyprinid fish identified changes in gene expression associated with sterility of the triploid male fish.

- Chan Jin Park, Cheol Min Ha, Jae Eun Lee, and Myung Chan Gye

Claudin 11 Inter-Sertoli Tight Junctions in the Testis of the Korean Soft-Shelled Turtle (*Pelodiscus maackii*)

Biol Reprod April 2015 92 (4) 96, 1-13; published ahead of print March 11, 2015, doi:10.1095/biolreprod.114.117804

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

Summary: Sertoli cells expressing CLDN11 tight junctions in the testis of the Korean soft-shelled turtle (*Pelodiscus maackii*) were tightly coupled with circulating androgen levels and spermatogenic stages.

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