
World of Reproductive Biology

Charlotte Schubert

Two Genes Substitute for Y Chromosome

Biol Reprod May 2016 94 (5) 98, 1-1; published ahead of print February 3, 2016, doi:10.1095/biolreprod.116.139279

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A Histone-Modifying Enzyme and the Maternal-to-Zygotic Transition

Biol Reprod May 2016 94 (5) 99, 1-1; published ahead of print February 24, 2016, doi:10.1095/biolreprod.116.139428

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Notch at Implantation

Biol Reprod May 2016 94 (5) 100, 1-1; published ahead of print March 2, 2016, doi:10.1095/biolreprod.116.140061

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

Minireview

- Karl Kerns, Patricio Morales, and Peter Sutovsky

Regulation of Sperm Capacitation by the 26S Proteasome: An Emerging New Paradigm in Spermatology

Biol Reprod May 2016 94 (5) 117, 1-9; published ahead of print April 6, 2016, doi:10.1095/biolreprod.115.136622

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

Summary: Sperm-borne 26S proteasome regulates the process of mammalian sperm capacitation.

[Clear](#) [Get All Checked Abstracts](#)

Research Articles

Environment

- Chunxia Lu, Rodolfo C. Cardoso, Muraly Puttabyatappa, and Vasantha Padmanabhan

Developmental Programming: Prenatal Testosterone Excess and Insulin Signaling Disruptions in Female Sheep

Biol Reprod May 2016 94 (5) 113, 1-11; published ahead of print April 6, 2016, doi:10.1095/biolreprod.115.136283

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

Summary: Prenatal exposure to testosterone excess changes insulin sensitivity in a tissue- and development-specific manner in female sheep.

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Female Reproductive Tract

- Wooyoung Jeong, Heewon Seo, Yujin Sung, Hakhyun Ka, Gwonhwa Song, and Jinyoung Kim

Lysophosphatidic Acid (LPA) Receptor 3-Mediated LPA Signal Transduction Pathways: A Possible Relationship with Early Development of Peri-Implantation Porcine Conceptus

Biol Reprod May 2016 94 (5) 104, 1-11; published ahead of print March 30, 2016, doi:10.1095/biolreprod.115.137174

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

Summary: Lysophosphatidic acid affects proliferation, migration, and differentiation of conceptus trophoctoderm in pigs.

- Fatima Barragan, Juan C. Irwin, Shaina Balayan, David W. Erikson, Joseph C. Chen, Sahar Houshdaran, Terhi T. Piltonen, Trimble L.B. Spitzer, Ashley George,

Human Endometrial Fibroblasts Derived from Mesenchymal Progenitors Inherit Progesterone Resistance and Acquire an Inflammatory Phenotype in the Endometrial Niche in Endometriosis

Biol Reprod May 2016 94 (5) 118, 1-20; published ahead of print April 13, 2016, doi:10.1095/biolreprod.115.136010

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

Summary: Human endometrial mesenchymal stem cells undergo lineage differentiation to stromal fibroblasts that inherit progesterone resistance and acquire a pro-inflammatory phenotype within the endometrial niche in endometriosis.

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Gamete Biology

- Laleh Abbassi, Safia Malki, Katie Cockburn, Angus Macaulay, Claude Robert, Janet Rossant, and Hugh J. Clarke

Multiple Mechanisms Cooperate to Constitutively Exclude the Transcriptional Co-Activator YAP from the Nucleus During Murine Oogenesis

Biol Reprod May 2016 94 (5) 102, 1-12; published ahead of print March 16, 2016, doi:10.1095/biolreprod.115.137968

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

Summary: Female germ cells express YAP, a key transcriptional effector of Hippo signaling, from prenatal stages throughout oogenesis, but multiple mechanisms prevent its accumulation in the nucleus, thus excluding a role for nuclear YAP in oocyte development.

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Immunology

- Mackenzie L. Redhead, Nathália A. Portilho, Allison M. Felker, Shuhiba Mohammad, Danielle L. Mara, and B. Anne Croy

The Transcription Factor NFIL3 Is Essential for Normal Placental and Embryonic Development but Not for Uterine Natural Killer (UNK) Cell Differentiation in Mice

Biol Reprod May 2016 94 (5) 101, 1-16; published ahead of print March 16, 2016, doi:10.1095/biolreprod.116.138495

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

Summary: Although the transcription factor NFIL3 is essential for peripheral NK cell differentiation, uterine NK cells differentiate in syngeneically (*Nfil3*^{-/-} males) or allogeneically (BALB/c^{+/+} males) mated *Nfil3*^{-/-} females, whose pregnancies are complicated by trophoblast pathology and dystocia.

- Eileen Poloski, Anika Oettel, Stefanie Ehrentraut, Lydia Luley, Serban-Dan Costa, Ana Claudia Zenclussen, and Anne Schumacher

JEG-3 Trophoblast Cells Producing Human Chorionic Gonadotropin Promote Conversion of Human CD4⁺FOXP3⁻ T Cells into CD4⁺FOXP3⁺ Regulatory T Cells and Foster T Cell Suppressive Activity

Biol Reprod May 2016 94 (5) 106, 1-11; published ahead of print March 9, 2016, doi:10.1095/biolreprod.115.135541

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

[OPEN ACCESS ARTICLE](#)

Summary: Human chorionic gonadotropin favors fetal tolerance by Treg cell induction and enhancement of T cell suppressive activity during human pregnancy.

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Mechanisms of Hormone Action

- Hong-Hai Zhang, Thomas J. Lechuga, Yuezhou Chen, Yingying Yang, Lan Huang, and Dong-Bao Chen

Quantitative Proteomics Analysis of VEGF-Responsive Endothelial Protein S-Nitrosylation Using Stable Isotope Labeling by Amino Acids in Cell Culture (SILAC) and LC-MS/MS

Biol Reprod May 2016 94 (5) 114, 1-18; published ahead of print April 13, 2016, doi:10.1095/biolreprod.116.139337

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

Summary: A BST-SILAC/MS platform is developed herein for quantitative proteomics analysis of global protein S-nitrosylation in paired proteomes with the identification of reactive cysteine(s) in each nitroso-protein simultaneously, by which we show that endogenous NO on VEGFA stimulation and exogenous NO from a donor affect common and different placental endothelial SNO-protein networks.

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Ovary

- Malgorzata E. Skaznik-Wikiel, Delaney C. Swindle, Amanda A. Allshouse, Alex J. Polotsky, and James L. McManaman

High-Fat Diet Causes Subfertility and Compromised Ovarian Function Independent of Obesity in Mice

Biol Reprod May 2016 94 (5) 108, 1-10; published ahead of print March 30, 2016, doi:10.1095/biolreprod.115.137414

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

Summary: Prolonged exposure to high-fat diet in young adult female mice causes significant reduction in primordial follicles, compromised fertility, higher proinflammatory cytokines, and increased ovarian macrophage infiltration, independent of obesity.

- Cecily V. Bishop, Jon D. Hennebold, Christoph A. Kahl, and Richard L. Stouffer

Knockdown of Progesterone Receptor (PGR) in Macaque Granulosa Cells Disrupts Ovulation and Progesterone Production

Biol Reprod May 2016 94 (5) 109, 1-10; published ahead of print March 16, 2016, doi:10.1095/biolreprod.115.134981

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

Summary: Progesterone plays a direct role in induction of ovulatory processes via nuclear progesterone receptor (PGR) signaling in primates, and progesterone regulates its own biosynthesis in luteinizing granulosa cells both before and immediately after ovulation.

- Jeremy R. Egbert, Tracy F. Uliasz, Leia C. Shuhaibar, Andreas Geerts, Frank Wunder, Robin J. Kleiman, John M. Humphrey, Paul D. Lampe, Nikolai O. Artemyev,
Luteinizing Hormone Causes Phosphorylation and Activation of the cGMP Phosphodiesterase PDE5 in Rat Ovarian Follicles, Contributing, Together with PDE1 Activity, to the Resumption of Meiosis

Biol Reprod May 2016 94 (5) 110, 1-11; published ahead of print March 23, 2016, doi:10.1095/biolreprod.115.135897

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

Summary: The activities of both PDE5 and PDE1 contribute to the LH-induced resumption of meiosis in rat oocytes, and phosphorylation and activation of PDE5 is a regulatory mechanism.

- Xue Li, Yan Li, Chunlian Liu, Mulan Jin, and Baisong Lu
Oocyte-Specific Expression of Mouse MEX3C^{652AA} in the Ovary and Its Potential Role in Regulating Maternal *Fos* mRNA

Biol Reprod May 2016 94 (5) 115, 1-15; published ahead of print April 6, 2016, doi:10.1095/biolreprod.115.136630

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

Summary: A MEX3C variant, MEX3C^{652AA}, is involved in mRNA nuclear export, specifically expressed in the oocytes, and may regulate maternal *Fos* mRNA in the oocytes.

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Pregnancy

- Pengli Bu, Sheikh M. Khorshed Alam, Pramod Dhakal, Jay L. Vivian, and Michael J. Soares
A Prolactin Family Paralog Regulates Placental Adaptations to a Physiological Stressor

Biol Reprod May 2016 94 (5) 107, 1-9; published ahead of print March 16, 2016, doi:10.1095/biolreprod.115.138032

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

Summary: PRL7B1 is expressed by invasive trophoblast cells and regulates placental adaptations to a hypoxic environment.

- Fabien Duval, Esther Dos Santos, Dorothee Poidatz, Valérie Sérazin, Héloïse Gronier, François Vialard, and Marie-Noëlle Dieudonné
Adiponectin Inhibits Nutrient Transporters and Promotes Apoptosis in Human Villous Cytotrophoblasts: Involvement in the Control of Fetal Growth

Biol Reprod May 2016 94 (5) 111, 1-12; published ahead of print March 30, 2016, doi:10.1095/biolreprod.115.134544

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

Summary: Adiponectin could control fetal growth via placental nutrient transport regulation, but also via an action on placental energy metabolism.

- Xiuyue Jia, Yang Gu, Lynn J. Groome, Mahmoud Al-Kofahi, J. Steven Alexander, Weimin Li, and Yuping Wang
1,25(OH)₂D₃ Induces Placental Vascular Smooth Muscle Cell Relaxation by Phosphorylation of Myosin Phosphatase Target Subunit 1^{Ser507}: Potential Beneficial Effects of Vitamin D on Placental Vasculature in Humans

Biol Reprod May 2016 94 (5) 116, 1-8; published ahead of print April 13, 2016, doi:10.1095/biolreprod.116.138362

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

Summary: Up-regulation of p-MYPT1^{Ser507} by 1,25(OH)₂D₃ and losartan may be a plausible mechanism that counteracts angiotensin II/AT-1-induced vascular smooth muscle cell contraction in human placenta.

- Lauren C. Potts, Liping Feng, Patrick C. Seed, Friederike L. Jayes, Maragatha Kuchibhatla, Brian Antczak, Matthew K. Nazzari, and Amy P. Murtha
Inflammatory Response of Human Gestational Membranes to *Ureaplasma parvum* Using a Novel Dual-Chamber Tissue Explant System

Biol Reprod May 2016 94 (5) 119, 1-8; published ahead of print March 23, 2016, doi:10.1095/biolreprod.115.137596

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

Summary: Human gestational membranes ex vivo produce a dose-dependent inflammatory response upon exposure to *Ureaplasma parvum*.

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Reproductive Technology

- Bo Li, Xifeng Xiao, Shuqiang Chen, Jianlei Huang, Yefei Ma, Na Tang, Huijun Sun, and Xiaohong Wang
Changes of Phospholipids in Fetal Liver of Mice Conceived by In Vitro Fertilization

Biol Reprod May 2016 94 (5) 105, 1-8; published ahead of print March 2, 2016, doi:10.1095/biolreprod.115.136325

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

Summary: In vitro fertilization resulted in phospholipid changes in mouse fetal liver, which may be related to the changes in glucose metabolism and vascular dysfunction in adult life associated with assisted reproduction.

- Mito Kanatsu-Shinohara, Hiroko Morimoto, and Takashi Shinohara
Fertility of Male Germline Stem Cells Following Spermatogonial Transplantation in Infertile Mouse Models
Biol Reprod May 2016 94 (5) 112, 1-11; published ahead of print April 6, 2016, doi:10.1095/biolreprod.115.137869

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

Summary: An efficient germline transmission system was developed using spermatogonial transplantation.

Testis

- Nick Warr, Pam Siggers, Gwenn-Aël Carré, Sara Wells, and Andy Greenfield
Genetic Analyses Reveal Functions for MAP2K3 and MAP2K6 in Mouse Testis Determination
Biol Reprod May 2016 94 (5) 103, 1-7; published ahead of print March 23, 2016, doi:10.1095/biolreprod.115.138057

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

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Summary: The signaling proteins MAP2K3 and MAP2K6 have functions in mouse testis determination revealed by loss of function genetic studies in sensitized strains.