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World of Reproductive Biology

Charlotte Schubert

Embryonic Selection

Biol Reprod February 2016 94 (2) 26, 1-1; published ahead of print November 4, 2015, doi:10.1095/biolreprod.115.136796

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

Charlotte Schubert

Wavering Between Passive and Aggressive

Biol Reprod February 2016 94 (2) 27, 1-1; published ahead of print November 11, 2015, doi:10.1095/biolreprod.115.136994

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Charlotte Schubert

Chaperone Keeps the Silence

Biol Reprod February 2016 94 (2) 28, 1-1; published ahead of print November 19, 2015, doi:10.1095/biolreprod.115.137182

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Charlotte Schubert

Birth—Timing It Right

Biol Reprod February 2016 94 (2) 29, 1-1; published ahead of print November 25, 2015, doi:10.1095/biolreprod.115.137349

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Commentary

Lee B. Smith

Nonclassical Testosterone Signaling: A New Pathway Controlling Spermatogenesis?

Biol Reprod February 2016 94 (2) 43, 1-2; published ahead of print January 6, 2016, doi:10.1095/biolreprod.115.137950

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

Summary: Independent inhibition of either classical or nonclassical testosterone signaling in Sertoli cells blocks spermatogenesis.

Minireview

Su-Ren Chen and Yi-Xun Liu

Testis Cord Maintenance in Mouse Embryos: Genes and Signaling

Biol Reprod February 2016 94 (2) 42, 1-7; published ahead of print January 20, 2016, doi:10.1095/biolreprod.115.137117

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

Summary: In this review, we summarize the recent findings regarding the regulation of testis cord integrity and morphology by a series of genes and signaling pathways.

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Research Articles

Environment

David W. Greening, Hong P.T. Nguyen, Kirstin Elgass, Richard J. Simpson, and Lois A. Salamonsen

Human Endometrial Exosomes Contain Hormone-Specific Cargo Modulating Trophoblast Adhesive Capacity: Insights into Endometrial-Embryo Interactions

Biol Reprod February 2016 94 (2) 38, 1-15; published ahead of print January 13, 2016, doi:10.1095/biolreprod.115.134890

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

Summary: Unique insight into the developmental biology of embryo implantation, demonstrating for the first time a contribution of endometrial-derived exosomes to endometrial-embryo cross talk.

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Female Reproductive Tract

Katrien Smits, Dieter I.M. De Coninck, Filip Van Nieuwerburgh, Jan Govaere, Mario Van Poucke, Luc Peelman, Dieter Deforce, and Ann Van Soom

The Equine Embryo Influences Immune-Related Gene Expression in the Oviduct

Biol Reprod February 2016 94 (2) 36, 1-8; published ahead of print January 6, 2016, doi:10.1095/biolreprod.115.136432

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

Summary: RNA sequencing of equine oviduct epithelial cells four days after ovulation shows that the equine embryo affects the expression of immune response related genes in the oviduct, with marked upregulation of interferon associated genes.

- Kathleen M. Rahman, Meredith E. Camp, Nripesh Prasad, Anthony K. McNeel, Shawn E. Levy, Frank F. Bartol, and Carol A. Bagnell

Age and Nursing Affect the Neonatal Porcine Uterine Transcriptome

Biol Reprod February 2016 94 (2) 46, 1-13; published ahead of print December 2, 2015, doi:10.1095/biolreprod.115.136150

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

Summary: Age and lactocrine signaling for 2 days from birth affect global changes in porcine uterine gene expression important for regulating uterine development.

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Immunology

- Andrea G. Fernández, Mariana C. Ferrero, M. Soledad Hielpos, Carlos A. Fossati, and Pablo C. Baldi

Proinflammatory Response of Human Trophoblastic Cells to *Brucella abortus* Infection and upon Interactions with Infected Phagocytes

Biol Reprod February 2016 94 (2) 48, 1-11; published ahead of print January 20, 2016, doi:10.1095/biolreprod.115.131706

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

Summary: Reciprocal interactions between human trophoblasts and phagocytes during *Brucella abortus* infection result in a proinflammatory profile; this may be a contributing factor to the pregnancy complications of brucellosis.

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Male Reproductive Tract

- Wei Duan, Kang Xu, Fangzhou Hu, Yi Zhang, Ming Wen, Jing Wang, Min Tao, Kaikun Luo, Rurong Zhao, Qinbo Qin, Chun Zhang, Jinhui Liu, Yun Liu, and Shao

Comparative Proteomic, Physiological, Morphological, and Biochemical Analyses Reveal the Characteristics of the Diploid Spermatozoa of Allotetraploid Hybrids of Red Crucian Carp (*Carassius auratus*) and Common Carp (*Cyprinus carpio*)

Biol Reprod February 2016 94 (2) 35, 1-12; published ahead of print December 16, 2015, doi:10.1095/biolreprod.115.132787

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

Summary: Clues of variations in diploid spermatozoa are characterized by comparative proteomic analysis between diploid and haploid spermatozoa.

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Ovary

- Nicole J. Camlin, Alexander P. Sobinoff, Jessie M. Sutherland, Emma L. Beckett, Andrew G. Jarnicki, Rebecca L. Vanders, Philip M. Hansbro, Eileen A. McLau

Maternal Smoke Exposure Impairs the Long-Term Fertility of Female Offspring in a Murine Model

Biol Reprod February 2016 94 (2) 39, 1-12; published ahead of print January 13, 2016, doi:10.1095/biolreprod.115.135848

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

Summary: In utero/lactational maternal cigarette smoke exposure decreases ovary and oocyte quality, ultimately leading to a reduction in fertility.

- Yi A. Ren, Zhilin Liu, Lisa K. Mullany, Chen-Ming Fan, and JoAnne S. Richards

Growth Arrest Specific-1 (GAS1) Is a C/EBP Target Gene That Functions in Ovulation and Corpus Luteum Formation in Mice

Biol Reprod February 2016 94 (2) 44, 1-12; published ahead of print January 6, 2016, doi:10.1095/biolreprod.115.133058

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

Summary: Growth arrest specific 1 (GAS1), a GPI-linked membrane protein with tumor suppressor functions, is a novel downstream target of the transcription factors C/EBP α / β and is involved in the processes of ovulation and luteinization in the mouse ovary.

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Pregnancy

- Ratana Lim, Ha Thi Tran, Stella Liong, Gillian Barker, and Martha Lappas

The Transcription Factor Interferon Regulatory Factor-1 (IRF1) Plays a Key Role in the Terminal Effector Pathways of Human Preterm Labor

Biol Reprod February 2016 94 (2) 32, 1-13; published ahead of print December 16, 2015, doi:10.1095/biolreprod.115.134726

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

Summary: Increased IRF1 expression is associated with human spontaneous term labor, infection-induced preterm labor, and mediators of preterm labor; IRF1 is involved in the regulation of TLR- and cytokine-mediated signaling.

- Liping Li, Jiaoqin Tu, Yao Jiang, Jie Zhou, Shinichiro Yabe, and Danny J. Schust

Effects of Lipopolysaccharide on Human First Trimester Villous Cytotrophoblast Cell Function In Vitro

Biol Reprod February 2016 94 (2) 33, 1-9; published ahead of print December 23, 2015, doi:10.1095/biolreprod.115.134627

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

Summary: LPS increases the production of a subset of proinflammatory cytokines and chemokines by human first trimester cytotrophoblast cells, decreases cytotrophoblast invasion, and alters the cross talk between cytotrophoblast cells and decidual macrophages.

- Mariëtte Leeuwerke, Michelle S. Eilander, Maurien G.M. Pruis, Ágnes Lendvai, Jan Jaap H.M. Erwich, Sicco A. Scherjon, Torsten Plösch, and Jasper J.H. Eijns
DNA Methylation and Expression Patterns of Selected Genes in First-Trimester Placental Tissue from Pregnancies with Small-for-Gestational-Age Infants at Birth

Biol Reprod February 2016 94 (2) 37, 1-7; published ahead of print January 6, 2016, doi:10.1095/biolreprod.115.131698

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

Summary: The differences in DNA methylation found in term placentas from small-for-gestational-age infants are not found in the early placenta, suggesting that these differences must arise between the second trimester and the term period.

- Shengqiang Li, Andrew K. Moore, Jia Zhu, Xian Li, Huaxin Zhou, Jing Lin, Yan He, Fengying Xing, Yangbin Pan, Henry C. Bohler, Jixiang Ding, Austin J. Coon

Ggnbp2 Is Essential for Pregnancy Success via Regulation of Mouse Trophoblast Stem Cell Proliferation and Differentiation

Biol Reprod February 2016 94 (2) 41, 1-12; published ahead of print January 13, 2016, doi:10.1095/biolreprod.115.136358

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

Summary: GGNBP2 is an essential factor for pregnancy success through the maintenance of a balance of trophoblast stem cell proliferation and differentiation during placental development.

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Reproductive Technology

- Chieh-Jhen Chen, Shinya Shikina, Wei-Jen Chen, Yi-Jou Chung, Yi-Ling Chiu, Joris A.M. Bertrand, Yan-Horn Lee, and Ching-Fong Chang

A Novel Female-Specific and Sexual Reproduction-Associated *Dmrt* Gene Discovered in the Stony Coral, *Euphyllia ancora*

Biol Reprod February 2016 94 (2) 40, 1-13; published ahead of print January 6, 2016, doi:10.1095/biolreprod.115.133173

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

Summary: A novel female-specific and sexual reproduction-related *Dmrt* gene was identified in the stony coral *Euphyllia ancora*.

- Bo Li, Shuqiang Chen, Na Tang, Xifeng Xiao, Jianlei Huang, Feng Jiang, Xiuying Huang, Fangzhen Sun, and Xiaohong Wang

Assisted Reproduction Causes Reduced Fetal Growth Associated with Downregulation of Paternally Expressed Imprinted Genes That Enhance Fetal Growth in Mice

Biol Reprod February 2016 94 (2) 45, 1-11; published ahead of print January 13, 2016, doi:10.1095/biolreprod.115.136051

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

Summary: The genomic imprinting and developmentally and functionally relevant genes in placenta are perturbed by assisted reproduction, which may affect fetal intrauterine growth trajectory.

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Testis

- Keiji Tomita, Hiroyuki Tanaka, Susumu Kageyama, Masayuki Nagasawa, Akinori Wada, Ryosuke Murai, Kenichi Kobayashi, Eiki Hanada, Yasutoshi Agata, and

The Effect of D-Aspartate on Spermatogenesis in Mouse Testis

Biol Reprod February 2016 94 (2) 30, 1-7; published ahead of print December 9, 2015, doi:10.1095/biolreprod.115.134692

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

[OPEN ACCESS ARTICLE](#)

Summary: D-Aspartate in mouse testis, which is controlled in part by its degradative enzyme, D-aspartate oxidase, expressed in Sertoli cells, increases with growth and has a negative effect on cell division in premeiotic germ cells in cultured testis tissue.

- Dongsheng Nie, Dong Zhang, Jingbo Dai, Meixing Zhang, Xianglong Zhao, Wangjie Xu, Zhong Chen, Lianyun Wang, Zhaoxia Wang, and Zhongdong Qiao
Nicotine Induced Murine Spermatozoa Apoptosis via Up-

Regulation of Deubiquitinated RIP1 by *Trim27* Promoter Hypomethylation

Biol Reprod February 2016 94 (2) 31, 1-12; published ahead of print November 25, 2015, doi:10.1095/biolreprod.115.131656

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

Summary: The testicular nicotine activated TNF apoptotic pathway is upregulated by epigenetically activated Trim27, which up-regulated deubiquitinated RIP1 and resulted in pro-apoptosis in spermatozoa.

Petar N. Grozdanov, Atia Amatullah, Joel H. Graber, and Clinton C. MacDonald

TauCstF-64 Mediates Correct mRNA Polyadenylation and Splicing of Activator and Repressor Isoforms of the Cyclic AMP-Responsive Element Modulator (CREM) in Mouse Testis

Biol Reprod February 2016 94 (2) 34, 1-12; published ahead of print December 23, 2015, doi:10.1095/biolreprod.115.134684

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

Summary: The testis-expressed polyadenylation protein tauCstF-64 is necessary for spermatogenesis in part because it controls both polyadenylation and splicing of CREM in male germ cells.

In Memoriam

R. Michael Roberts

IN MEMORIAM: Neal L. First 1930–2014

Biol Reprod February 2016 94 (2) 47, 1-2; published ahead of print December 23, 2015, doi:10.1095/biolreprod.115.138198

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