

February 1, 2014; 90 (2)

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Charlotte Schubert

WORLD OF REPRODUCTIVE BIOLOGY

Biol Reprod February 2014 90 (2) 21, 1-2; doi:10.1095/biolreprod.113.116301

[Full Text](#) [Full Text \(PDF\)](#)**Research Articles****Embryo**

-
- Eric de Waal, Winifred Mak, Sondra Calhoun, Paula Stein, Teri Ord, Christopher Krapp, Christos Coutifaris, Richard M. Schultz, and Marisa S. Bartolomei

In Vitro Culture Increases the Frequency of Stochastic Epigenetic Errors at Imprinted Genes in Placental Tissues from Mouse Concepti Produced Through Assisted Reproductive Technologies

Biol Reprod February 2014 90 (2) 22, 1-12; published ahead of print December 11, 2013, doi:10.1095/biolreprod.113.114785

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

Summary: Culturing mouse embryos with low and high oxygen tension promotes abnormal DNA methylation and expression profiles at imprinted genes in placental tissues; the variety of outcomes observed in different placentae suggests that these epigenetic defects arise randomly.

-
- Marcelo D. Goissis and Jose B. Cibelli

Functional Characterization of SOX2 in Bovine Preimplantation Embryos

Biol Reprod February 2014 90 (2) 30, 1-10; published ahead of print January 3, 2014, doi:10.1095/biolreprod.113.111526

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

Summary: SOX2 knockdown in one blastomere of a two-cell bovine embryo is compatible with preimplantation development, and daughter cells can contribute to the ICM.

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-
- Sophie Petropoulos, Stephen G. Matthews, and Moshe Szyf

Adult Glucocorticoid Exposure Leads to Transcriptional and DNA Methylation Changes in Nuclear Steroid Receptors in the Hippocampus and Kidney of Mouse Male Offspring

Biol Reprod February 2014 90 (2) 43, 1-10; published ahead of print January 22, 2014, doi:10.1095/biolreprod.113.115899

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

Summary: Adult male exposure to sGC can affect DNA methylation and gene expression in offspring, indicating that adult experiences that evoke increases in endogenous glucocorticoid (i.e., stress) might have similar effects.

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-
- Friederike L. Jayes, Katherine A. Burns, Karina F. Rodriguez, Grace E. Kissling, and Kenneth S. Korach

The Naturally Occurring Luteinizing Hormone Surge Is Diminished in Mice Lacking Estrogen Receptor Beta in the Ovary

Biol Reprod February 2014 90 (2) 24, 1-9; published ahead of print December 11, 2013, doi:10.1095/biolreprod.113.113316

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

Summary: Lack of ESR2 expression in the ovary, but not in the hypothalamus, leads to reduced fertility and diminished LH surges.

-
- Malgorzata Rzepkowska, Teresa Ostaszewska, Monika Gibala, and Marek Lukasz Roszko

Intersex Gonad Differentiation in Cultured Russian (*Acipenser guldensstaedtii*) and Siberian (*Acipenser baerii*) Sturgeon

Biol Reprod February 2014 90 (2) 31, 1-10; published ahead of print January 8, 2014, doi:10.1095/biolreprod.113.112813

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

Summary: Differentiation of intersexual germinal epithelium in sturgeons showed various morphological changes, characterized using both quantitative (single or massive) and location-dependent (subepithelial or interstitial) criteria.

-
- Jui-He Tsai, Maggie M.-Y. Chi, Maureen B. Schulte, and Kelle H. Moley

The Fatty Acid Beta-Oxidation Pathway Is Important for Decidualization of Endometrial Stromal Cells in Both Humans and Mice

Biol Reprod February 2014 90 (2) 34, 1-12; published ahead of print January 8, 2014, doi:10.1095/biolreprod.113.113217

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

Summary: Blockade of the beta-oxidation and the pentose phosphate pathway inhibit decidualization of both human and mouse endometrial stromal cells and impair pregnancy in mice.

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Gamete Biology

- Ana Hurtado de Llera, David Martin-Hidalgo, Maria Cruz Gil, Luis J. Garcia-Marin, and Maria Julia Bragado

The Calcium/CaMKKalpha/beta and the cAMP/PKA Pathways Are Essential Upstream Regulators of AMPK Activity in Boar Spermatozoa

Biol Reprod February 2014 90 (2) 29, 1-10; published ahead of print January 3, 2014, doi:10.1095/biolreprod.113.112797

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

Summary: AMPK activity in spermatozoa is centrally/essentially controlled by intracellular messengers calcium and cAMP, which act downstream through the PKA, CaMKKalpha/beta, PKC, and PI3K pathways.

- Xing Duan, Jun Liu, Xiao-Xin Dai, Hong-Lin Liu, Xiang-Shun Cui, Nam-Hyung Kim, Zhen-Bo Wang, Qiang Wang, and Shao-Chen Sun

Rho-GTPase Effector ROCK Phosphorylates Cofilin in Actin-Mediated Cytokinesis During Mouse Oocyte Meiosis

Biol Reprod February 2014 90 (2) 37, 1-9; published ahead of print January 15, 2014, doi:10.1095/biolreprod.113.113522

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

Summary: Disruption of ROCK caused the decreased expression of p-Cofilin, following the failure of actin-based spindle movement and polar body extrusion demonstrating a ROCK-Cofilin-actin pathway may regulate oocyte asymmetric division.

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Immunology

- Mai Hoang, Julie A. Potter, Stefan M. Gysler, Christina S. Han, Seth Guller, Errol R. Norwitz, and Vikki M. Abrahams

Human Fetal Membranes Generate Distinct Cytokine Profiles in Response to Bacterial Toll-Like Receptor and Nod-Like Receptor Agonists

Biol Reprod February 2014 90 (2) 39, 1-9; published ahead of print January 15, 2014, doi:10.1095/biolreprod.113.115428

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

Summary: Human fetal membranes respond to different bacterial Toll-like receptor and Nod-like receptor agonists by generating specific and distinct inflammatory cytokine profiles through distinct mechanisms.

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Male Reproductive Tract

- María Verónica Donoso, Andrés Norambuena, Camilo Navarrete, Inés Poblete, Alfredo Velasco, and Juan Pablo Huidobro-Toro

P2X1 Receptors Localized in Lipid Rafts Mediate ATP Motor Responses in the Human Vas Deferens Longitudinal Muscles

Biol Reprod February 2014 90 (2) 23, 1-10; published ahead of print December 18, 2013, doi:10.1095/biolreprod.113.109660

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

Summary: ATP elicits contractions of human vas deferens longitudinal muscles that are mediated by P2X1 receptors distributed in raft domains.

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Neuroendocrinology

- Jennifer F. Thorson, Ligia D. Prezotto, Rodolfo C. Cardoso, Sarah M. Sharpton, John F. Edwards, Thomas H. Welsh, Jr, Penny K. Riggs, Alain Caraty, Marcel A

Hypothalamic Distribution, Adenohypophyseal Receptor Expression, and Ligand Functionality of RFamide-Related Peptide 3 in the Mare During the Breeding and Nonbreeding Seasons

Biol Reprod February 2014 90 (2) 28, 1-9; published ahead of print January 3, 2014, doi:10.1095/biolreprod.113.112185

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

Summary: RF9, an antagonist of RFamide-related peptide 3 (RFRP3), disinhibits LH secretion in seasonally anovulatory mares in the absence of changes in the expression of RFRP3 in the hypothalamus and RFRP3 receptor in the adenohypophysis.

- Caroline Decourt, Alain Caraty, Christine Briant, Daniel Guillaume, Didier Lomet, Didier Chesneau, Lionel Lardic, Guy Duchamp, Fabrice Reigner, Philippe Mor

Acute Injection and Chronic Perfusion of Kisspeptin Elicit Gonadotropins Release but Fail to Trigger Ovulation in the Mare

Biol Reprod February 2014 90 (2) 36, 1-12; published ahead of

printJanuary 15, 2014, doi:10.1095/biolreprod.113.114157

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

Summary: Kisspeptin injection consistently triggers gonadotropin release in the mare, and yet even long-term chronic infusions appear unable to trigger ovulation.

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Ovary

- Avijit Halder, Michelle C. French, Rudiger Brauning, Sara J. Edwards, Anne R. O'Connell, Phil A. Farquhar, George H. Davis, Peter D. Johnstone, and Jennifer

Single-Nucleotide Polymorphisms in the *LEPR* Gene Are Associated with Divergent Phenotypes for Age at Onset of Puberty in Daisdale Ewes

Biol Reprod February 2014 90 (2) 33, 1-7; published ahead of printJanuary 3, 2014, doi:10.1095/biolreprod.113.115923

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

Summary: Single-nucleotide polymorphisms in *LPR* gene resulting in alterations to the amino acid structure of *LEPR* were strongly associated with delayed puberty in ewe lambs.

- Anna Sokalska, Scott D. Stanley, Jesus A. Villanueva, Israel Ortega, and Antoni J. Duleba

Comparison of Effects of Different Statins on Growth and Steroidogenesis of Rat Ovarian Theca-Interstitial Cells

Biol Reprod February 2014 90 (2) 44, 1-6; published ahead of printJanuary 3, 2014, doi:10.1095/biolreprod.113.114843

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

Summary: Comparison of effects of several statins demonstrates that simvastatin is the most potent in reducing growth and androgen production by rat theca-interstitial cells.

- Rajini Sreenivasan, Junhui Jiang, Xingang Wang, Richárd Bárfai, Hsiao Yuen Kwan, Alan Christoffels, and László Orbán

Gonad Differentiation in Zebrafish Is Regulated by the Canonical Wnt Signaling Pathway

Biol Reprod February 2014 90 (2) 45, 1-10; published ahead of printOctober 30, 2013, doi:10.1095/biolreprod.113.110874

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

[OPEN ACCESS ARTICLE](#)

Summary: Transcriptomic analysis and in-vivo inhibition of Wnt signaling in zebrafish reveals the role of canonical Wnt signaling in gonad differentiation.

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Pregnancy

- Samantha J. Dando, Ilias Nitsos, Graeme R. Polglase, John P. Newnham, Alan H. Jobe, and Christine L. Knox

***Ureaplasma parvum* Undergoes Selection In Utero Resulting in Genetically Diverse Isolates Colonizing the Chorioamnion of Fetal Sheep**

Biol Reprod February 2014 90 (2) 27, 1-10; published ahead of printDecember 11, 2013, doi:10.1095/biolreprod.113.113456

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

Summary: The chorioamnion selects for different ureaplasma subtypes within a nonclonal population during chronic intrauterine infection.

- Stacy Zamudio, Marcus Borges, Lourdes Echalar, Olga Kovalenko, Enrique Vargas, Tatiana Torricos, Abdulla Al Khan, Manuel Alvarez, and Nicholas P Illsley

Maternal and Fetoplacental Hypoxia Do Not Alter Circulating Angiogenic Growth Effectors During Human Pregnancy

Biol Reprod February 2014 90 (2) 42, 1-9; published ahead of printDecember 18, 2013, doi:10.1095/biolreprod.113.115592

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

Summary: The contribution of peripheral cells to levels of PlGF and sFlt-1 vary considerably in chronically lowered PO₂ (high altitude) and account for double the amount of sFlt-1 in preeclamptic versus normal pregnancy despite no change in levels of circulating angiogenic growth factors.

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Reproductive Technology

- Monica A. Mainigi, Devvora Olalere, Irina Burd, Carmen Sapienza, Marisa Bartolomei, and Christos Coutifaris

Peri-Implantation Hormonal Milieu: Elucidating Mechanisms of Abnormal Placentation and Fetal Growth

Biol Reprod February 2014 90 (2) 26, 1-9; published ahead of printDecember 18, 2013, doi:10.1095/biolreprod.113.110411

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

Summary: The effect of altering the peri-implantation hormonal milieu on fetal growth, trophoblast differentiation, gene expression, and

imprint establishment is examined in the mouse.

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Testis

- Séverine Mazaud-Guittot, Bruno Prud'homme, Marie France Bouchard, Francis Bergeron, Caroline Daems, Sergei G. Tevosian, and Robert S. Viger
GATA4 Autoregulates Its Own Expression in Mouse Gonadal Cells via Its Distal 1b Promoter
 Biol Reprod February 2014 90 (2) 25, 1-15; published ahead of print December 18, 2013, doi:10.1095/biolreprod.113.113290
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#)

Summary: *Gata4* gene transcription is ensured by distinct promoters that are differentially and independently regulated.
- Shadaan N. Abid, Timothy E. Richardson, Heather M. Powell, Priscilla Jaichander, Jaideep Chaudhary, Karen M. Chapman, and F. Kent Hamra
A-Single Spermatogonia Heterogeneity and Cell Cycles Synchronize with Rat Seminiferous Epithelium Stages VIII-IX
 Biol Reprod February 2014 90 (2) 32, 1-15; published ahead of print January 3, 2014, doi:10.1095/biolreprod.113.113555
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)

Summary: Subtypes of rat A-single spermatogonia that inhabit seminiferous epithelium at stages VIII-IX unveil novel theories on how germline stem cell niches work in mammals.
- Alana Lislea Sousa, Paulo Henrique Almeida Campos-Junior, Guilherme Mattos Jardim Costa, and Luiz Renato de França
Spermatogenic Cycle Length and Sperm Production in the Freshwater Turtle *Kinosternon scorpioides*
 Biol Reprod February 2014 90 (2) 35, 1-10; published ahead of print January 8, 2014, doi:10.1095/biolreprod.113.112391
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)

Summary: The first investigation to determine the duration of spermatogenesis and spermatogenic efficiency in a reptilian species finds that, similar to mammals, Sertoli cell efficiency is a critical determinant of sperm production.
- Qiaoyuan Chen, Weiwei Zhu, Zhenghui Liu, Keqin Yan, Shutao Zhao, and Daishu Han
Toll-Like Receptor 11-Initiated Innate Immune Response in Male Mouse Germ Cells
 Biol Reprod February 2014 90 (2) 38, 1-11; published ahead of print January 8, 2014, doi:10.1095/biolreprod.113.114421
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Table](#)

Summary: TLR11 is abundantly expressed in mouse spermatids and initiates innate immune response to *Toxoplasma gondii* profilin and uropathogenic *Escherichia coli* stimulation.

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Toxicology

- India D. Napier, Liz Simon, Devin Perry, Paul S. Cooke, Douglas M. Stocco, Estatira Sepehr, Daniel R. Doerge, Barbara W. Kempainen, Edward E. Morrison,
Testicular Development in Male Rats Is Sensitive to a Soy-Based Diet in the Neonatal Period
 Biol Reprod February 2014 90 (2) 40, 1-12; published ahead of print January 22, 2014, doi:10.1095/biolreprod.113.113787
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#)

Summary: Feeding of a soy-based diet in the neonatal period disrupted development of steroidogenic capacity and inhibited anti-Müllerian hormone protein expression in the rat testis.
- Francesco Parillo, Margherita Maranesi, Gabriele Brecchia, Anna Gobbetti, Cristiano Boiti, and Massimo Zerani
In Vivo Chronic and In Vitro Acute Effects of Di(2-Ethylhexyl) Phthalate on Pseudopregnant Rabbit Corpora Lutea: Possible Involvement of Peroxisome Proliferator-Activated Receptor Gamma
 Biol Reprod February 2014 90 (2) 41, 1-14; published ahead of print January 8, 2014, doi:10.1095/biolreprod.113.109223
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#)

Summary: DEHP has a luteolytic effect in pseudopregnant rabbits and down regulates PPARG expression.