

October 1, 2013; 89 (4)

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Charlotte Schubert

**WORLD OF REPRODUCTIVE BIOLOGY**

Biol Reprod October 2013 89 (4) 77, 1-3; doi:10.1095/biolreprod.113.112839

[Full Text](#) [Full Text \(PDF\)](#)**Minireview** Joshua Jasensky and Jason E. Swain**Peering Beneath the Surface: Novel Imaging Techniques to Noninvasively Select Gametes and Embryos for ART**

Biol Reprod October 2013 89 (4) 105, 1-12; published ahead of print September 25, 2013, doi:10.1095/biolreprod.113.113076

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

**Summary:** Advanced microscopy offers novel imaging approaches that do not compromise cell viability and can yield additional insight into gamete and embryo development and quality and perhaps be used to improve upon current selection methods to improve ART.

[Clear](#) [Get All Checked Abstracts](#)**Research Articles****Embryo** Bo Jin, Ryu-ichi Higashiyama, Yu-ichi Nakata, Jun-ichi Yonezawa, Shangdan Xu, Masashi Miyake, Sei-ichi Takahashi, Kazuhiro Kikuchi, Ken-ichi Yazawa, Shu**Rapid Movement of Water and Cryoprotectants in Pig Expanded Blastocysts via Channel Processes: Its Relevance to Their Higher Tolerance to Cryopreservation**

Biol Reprod October 2013 89 (4) 87, 1-12; published ahead of print August 21, 2013, doi:10.1095/biolreprod.112.107250

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

**Summary:** Water and cryoprotectants movement through channel processes in pig expanded blastocysts may be involved in the higher tolerance of embryos to cryopreservation.

[Clear](#) [Get All Checked Abstracts](#)**Female Reproductive Tract** Francisca M. Real, Ryohei Sekido, Darío G. Lupiáñez, Robin Lovell-Badge, Rafael Jiménez, and Miguel Burgos**A MicroRNA (mmu-miR-124) Prevents Sox9 Expression in Developing Mouse Ovarian Cells**

Biol Reprod October 2013 89 (4) 78, 1-11; published ahead of print August 14, 2013, doi:10.1095/biolreprod.113.110957

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

**Summary:** In vitro knock-down experiments show that miR-124 is responsible for SOX9 down-regulation in developing mouse ovarian cells.

 Anna Z. Szóstek, Karolina Lukasik, Antonio M. Galvão, Graça M. Ferreira-Dias, and Dariusz J. Skarzynski**Impairment of the Interleukin System in Equine Endometrium During the Course of Endometriosis**

Biol Reprod October 2013 89 (4) 79, 1-13; published ahead of print August 14, 2013, doi:10.1095/biolreprod.113.109447

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

**Summary:** Profound alterations in endometrial interleukin signaling occur during the course of endometriosis in the mare.

 Vineet Kumar Maurya, Rajesh Kumar Jha, Vijay Kumar, Anubha Joshi, Sangappa Chadchan, Jasna Jagan Mohan, and Malini Laloraya**Transforming Growth Factor-Beta 1 (TGF-B1) Liberation from Its Latent Complex During Embryo Implantation and Its Regulation by Estradiol in Mouse**

Biol Reprod October 2013 89 (4) 84, 1-17; published ahead of print August 7, 2013, doi:10.1095/biolreprod.112.106542

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

**Summary:** The estradiol regulated liberation of transforming growth factor-beta 1 (TGF-B1) from its latent complex in the receptive uterus during embryo implantation is important for the establishment of pregnancy.

 Justyna Filant and Thomas E. Spencer**Cell-Specific Transcriptional Profiling Reveals Candidate Mechanisms Regulating Development and Function of Uterine Epithelia in Mice**

Biol Reprod October 2013 89 (4) 86, 1-10; published ahead of print August 14, 2013, doi:10.1095/biolreprod.113.111971

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

**Summary:** The candidate genes and regulatory networks identified here provide a framework to discover new mechanisms regulating development of epithelia in the postnatal uterus and their functions in early pregnancy using the mouse as a model system.

- S.B. Liao, K.H. Cheung, M.P.L. Cheung, Y.T. To, W.S. O, and F. Tang

**Adrenomedullin Increased the Short-Circuit Current in the Pig Oviduct Through Chloride Channels via the CGRP Receptor: Mediation by cAMP and Calcium Ions But Not by Nitric Oxide**

Biol Reprod October 2013 89 (4) 99, 1-6; published ahead of print August 21, 2013, doi:10.1095/biolreprod.113.109934

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

**Summary:** Adrenomedullin, expressed in the porcine oviduct epithelium, increased short-circuit current through the oviductal epithelium mediated by the CGRP receptor.

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#### Gamete Biology

- Aude Gautier, Anne-Sophie Goupil, Florence Le Gac, and Jean-Jacques Lareyre

**A Promoter Fragment of the *sycp1* Gene Is Sufficient to Drive Transgene Expression in Male and Female Meiotic Germ Cells in Zebrafish**

Biol Reprod October 2013 89 (4) 89, 1-14; published ahead of print August 21, 2013, doi:10.1095/biolreprod.113.107706

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

**Summary:** Identification of the portion of the *sycp1* gene promoter that is capable of driving GFP transgene expression in transgenic zebrafish male and female meiotic germ cells.

- Eric Guévelou, Arnaud Huvet, Clara E. Galindo-Sánchez, Massimo Milan, Virgile Quillien, Jean-Yves Daniel, Claudie Quéré, Pierre Boudry, and Charlotte Corp
- Sex-Specific Regulation of AMP-Activated Protein Kinase (AMPK) in the Pacific Oyster *Crassostrea gigas***

Biol Reprod October 2013 89 (4) 100, 1-15; published ahead of print August 7, 2013, doi:10.1095/biolreprod.113.109728

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

**Summary:** AMPK activation plays a sex-dependent role in the management of energy during gametogenesis in the gonad of the Pacific oyster, *Crassostrea gigas*.

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#### Immunology

- Nicoletta Di Simone, Marco De Spirito, Fiorella Di Nicuolo, Chiara Tersigni, Roberta Castellani, Marco Silano, Giuseppe Maulucci, Massimiliano Papi, Riccardo

**Potential New Mechanisms of Placental Damage in Celiac Disease: Anti-Transglutaminase Antibodies Impair Human Endometrial Angiogenesis**

Biol Reprod October 2013 89 (4) 88, 1-11; published ahead of print August 21, 2013, doi:10.1095/biolreprod.113.109637

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

**Summary:** Anti-transglutaminase type 2 antibodies bind human endometrial endothelial cells and decrease newly formed vessels both in vitro and in vivo, suggesting a new pathogenic mechanism of damage in celiac disease at the fetomaternal interface.

- Asma Jabeen, José Maria Miranda-Sayago, Boguslaw Obara, Patrick Simon Spencer, Gill Barbara Dealtry, Soren Hayrabedian, Valerie Shaikly, Pierre Philippe

**Quantified Colocalization Reveals Heterotypic Histocompatibility Class I Antigen Associations on Trophoblast Cell Membranes: Relevance for Human Pregnancy**

Biol Reprod October 2013 89 (4) 94, 1-10; published ahead of print September 4, 2013, doi:10.1095/biolreprod.113.111963

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

**Summary:** Human trophoblast cells express HLA-C, HLA-G, and HLA-E on the cell surface and form heterotypic associations as detected by a novel single-cell bioimaging technique.

- Antoine L. Perchellet, Susmita Jasti, and Margaret G. Petroff

**Maternal CD4<sup>+</sup> and CD8<sup>+</sup> T Cell Tolerance Towards a Fetal Minor Histocompatibility Antigen in T Cell Receptor Transgenic Mice**

Biol Reprod October 2013 89 (4) 102, 1-12; published ahead of print September 11, 2013, doi:10.1095/biolreprod.113.110445

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

**Summary:** Maternal CD4<sup>+</sup> T cell tolerance mechanisms are complete in this model of fetal neoantigen, whereas CD8<sup>+</sup> T cell tolerance intermittently failed.

[Clear](#) [Get All Checked Abstracts](#)**Male Reproductive Tract**

- Manabu Kato, Kenichiro Ishii, Yoichi Iwamoto, Takeshi Sasaki, Hideki Kanda, Yasushi Yamada, Kiminobu Arima, Taizo Shiraiishi, and Yoshiki Sugimura  
**Activation of FGF2-FGFR Signaling in the Castrated Mouse Prostate Stimulates the Proliferation of Basal Epithelial Cells**  
 Biol Reprod October 2013 89 (4) 81, 1-10; published ahead of print August 14, 2013, doi:10.1095/biolreprod.112.107516  
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#)
- Summary:** The FGF2-FGF receptor signaling cascade may be one of the pathways stimulating the proliferation of basal epithelial cells in the absence of androgens.
- Jared M. Bischof, Austin E. Gillen, Lingyun Song, Nehal Gosalia, Darin London, Terrence S. Furey, Gregory E. Crawford, and Ann Harris  
**A Genome-Wide Analysis of Open Chromatin in Human Epididymis Epithelial Cells Reveals Candidate Regulatory Elements for Genes Coordinating Epididymal Function**  
 Biol Reprod October 2013 89 (4) 104, 1-8; published ahead of print September 4, 2013, doi:10.1095/biolreprod.113.110403  
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)
- Summary:** Open chromatin in human epididymis epithelial cells reveals transcription factor networks that may coordinate normal gene expression.

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- Hua-Mei Yue, Zhi Li, Nan Wu, Zhen Liu, Yang Wang, and Jian-Fang Gui  
**Oocyte-Specific H2A Variant H2af1o Is Required for Cell Synchrony Before Midblastula Transition in Early Zebrafish Embryos**  
 Biol Reprod October 2013 89 (4) 82, 1-13; published ahead of print August 14, 2013, doi:10.1095/biolreprod.113.108043  
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)
- Summary:** H2af1o, an oocyte-specific H2A variant, is required for maintaining cell synchrony division in early cleavages before midblastula transition in zebrafish.
- Khampoun Sayasith, Jean Sirois, and Jacques G. Lussier  
**Expression, Regulation, and Promoter Activation of Vanin-2 (VNN2) in Bovine Follicles Prior to Ovulation**  
 Biol Reprod October 2013 89 (4) 98, 1-11; published ahead of print September 4, 2013, doi:10.1095/biolreprod.113.111849  
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#)
- Summary:** Gonadotropin/forskolin-dependent up-regulation of VNN2 mRNA in granulosa cells of preovulatory follicles is described, providing insights into the molecular basis of VNN2 gene expression in follicular cells.
- Elizabeth R. Smith, Wan-Lin Yang, Toni Yeasky, Jennifer Smedberg, Kathy Q. Cai, and Xiang-Xi Xu  
**Cyclooxygenase-1 Inhibition Prolongs Postnatal Ovarian Follicle Lifespan in Mice**  
 Biol Reprod October 2013 89 (4) 103, 1-8; published ahead of print August 21, 2013, doi:10.1095/biolreprod.113.111070  
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Figure](#)
- Summary:** Cyclooxygenase-1 delays the maturation of primary follicles to secondary follicles and delays morphological signs of ovarian aging.

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- Owen R. Vaughan, Amanda N. Sferruzzi-Perri, Philip M. Coan, and Abigail L. Fowden  
**Adaptations in Placental Phenotype Depend on Route and Timing of Maternal Dexamethasone Administration in Mice**  
 Biol Reprod October 2013 89 (4) 80, 1-12; published ahead of print August 28, 2013, doi:10.1095/biolreprod.113.109678  
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplemental Data](#)
- Summary:** Differences in placental morphology and transport in mice given oral or injected dexamethasone over two periods in late pregnancy reflect dexamethasone exposure, 11 $\beta$ -hydroxysteroid dehydrogenase expression, and endogenous glucocorticoid availability.
- Federico Jensen, Damián Muzzio, Rocío Soldati, Stefan Fest, and Ana Claudia Zenclussen  
**Regulatory B10 Cells Restore Pregnancy Tolerance in a Mouse Model**  
 Biol Reprod October 2013 89 (4) 90, 1-7; published ahead of print August 28, 2013, doi:10.1095/biolreprod.113.110791  
[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#)  
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**Summary:** Regulatory B10 cells produce IL-10, which restores pregnancy tolerance in an abortion-prone mouse model by maintaining dendritic cells' immature and expanding regulatory T cells.

- Yu Chien, Wei-Cheng Cheng, Meng-Rong Wu, Si-Tse Jiang, Che-Kun James Shen, and Bon-chu Chung

**Misregulated Progesterone Secretion and Impaired Pregnancy in *Cyp11a1* Transgenic Mice**

Biol Reprod October 2013 89 (4) 91, 1-10; published ahead of print August 21, 2013, doi:10.1095/biolreprod.113.110833

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

**Summary:** Pregnancy failure in female *Cyp11a1* transgenic mice is due to uncontrolled progesterone secretion, abnormal embryo implantation, and placentation defect.

- Haiyan Guan, Kang Sun, and Kaiping Yang

**The ERK1/2 Signaling Pathway Regulates 11beta-Hydroxysteroid Dehydrogenase Type 2 Expression in Human Trophoblast Cells Through a Transcriptional Mechanism**

Biol Reprod October 2013 89 (4) 92, 1-7; published ahead of print August 21, 2013, doi:10.1095/biolreprod.113.110924

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

**Summary:** The ERK1/2 signaling pathway represses and mediates the inhibitory effect of cadmium on 11beta-HSD2 activity and expression in cultured human placental trophoblast cells.

- Jill L. Seabrook, Jeremy D. Cantlon, Austin J. Cooney, Erin E. McWhorter, Brittany A. Fromme, Gerrit J. Bouma, Russell V. Anthony, and Quinton A. Winger

**Role of LIN28A in Mouse and Human Trophoblast Cell Differentiation**

Biol Reprod October 2013 89 (4) 95, 1-13; published ahead of print September 4, 2013, doi:10.1095/biolreprod.113.109868

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

**Summary:** LIN28A regulates trophoblast differentiation.

- Francesca Gaccioli, Veronica White, Evangelina Capobianco, Theresa L. Powell, Alicia Jawerbaum, and Thomas Jansson

**Maternal Overweight Induced by a Diet with High Content of Saturated Fat Activates Placental mTOR and eIF2alpha Signaling and Increases Fetal Growth in Rats**

Biol Reprod October 2013 89 (4) 96, 1-11; published ahead of print September 4, 2013, doi:10.1095/biolreprod.113.109702

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

**Summary:** Feeding rats a diet high in saturated fat before and during pregnancy activated placental mTOR and eIF2 signaling pathways, whereas placental nutrient transport capacity and inflammation were unaffected.

- Vijayakumar Chinnathambi, Chandrasekhar Yallampalli, and Kunju Sathishkumar

**Prenatal Testosterone Induces Sex-Specific Dysfunction in Endothelium-Dependent Relaxation Pathways in Adult Male and Female Rats**

Biol Reprod October 2013 89 (4) 97, 1-9; published ahead of print August 21, 2013, doi:10.1095/biolreprod.113.111542

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

**Summary:** Prenatal testosterone leads to increases in blood pressure during adult life associated with blunting of endothelial cell-associated relaxations, and the effects are sex-specific: EDHF-related in males and NO-related in females.

- Akiko Takashima, Fumio Ishikawa, Taku Kuwabara, Yuriko Tanaka, Toshihiko Kinoshita, Motohiro Ito, and Terutaka Kakiuchi

**Uterine Natural Killer Cells Severely Decrease in Number at Gestation Day 6 in Mice**

Biol Reprod October 2013 89 (4) 101, 1-8; published ahead of print September 11, 2013, doi:10.1095/biolreprod.113.109009

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

**Summary:** The number of uterine NK cells in BALB/c mice are severely decreased at Gestation Day 6, suggesting that NK cells present in the virgin uterus do not contribute to the increase in NK cells after implantation.

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**Reproductive Technology**

- Jie Zhang, Wei Cui, Qing Li, Tian-Yang Wang, Hong-Shu Sui, Jun-Zuo Wang, Ming-Jiu Luo, and Jing-He Tan

**Mechanisms by which a Lack of Germinal Vesicle (GV) Material Causes Oocyte Meiotic Defects: A Study Using Oocytes Manipulated to Replace GV with Primary Spermatocyte Nuclei**

Biol Reprod October 2013 89 (4) 83, 1-15; published ahead of print August 14, 2013, doi:10.1095/biolreprod.113.111500

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

**Summary:** The primary pathways by which a lack of GV material

causes meiotic defects are revealed, laying a foundation for future research on the role of GV material in oocyte meiotic control.

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#### Testis

- Shunsuke Kuroki, Mika Akiyoshi, Mikiyo Tokura, Hitoshi Miyachi, Yuji Nakai, Hiroshi Kimura, Yoichi Shinkai, and Makoto Tachibana  
**JMJD1C, a JmjC Domain-Containing Protein, Is Required for Long-Term Maintenance of Male Germ Cells in Mice**

Biol Reprod October 2013 89 (4) 93, 1-9; published ahead of print September 4, 2013, doi:10.1095/biolreprod.113.108597

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

**Summary:** Loss of JMJD1C, a JmjC domain-containing protein, in mice leads to impaired spermatogenesis in an age-dependent manner.

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#### Toxicology

- Jennifer Maselli, Barbara F. Hales, and Bernard Robaire  
**The Effects of Chemotherapy with Bleomycin, Etoposide, and Cis-Platinum (BEP) on Rat Sperm Chromatin Remodeling, Fecundity and Testicular Gene Expression in the Progeny**

Biol Reprod October 2013 89 (4) 85, 1-9; published ahead of print August 28, 2013, doi:10.1095/biolreprod.113.110759

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

**Summary:** Treatment with bleomycin, etoposide, and *cis*-platinum affects rat sperm chromatin remodeling, leading to a decrease in progeny and alterations in testicular gene expression in the offspring.