November 1, 2013; 89 (5)

Clear Get All Checked Abstracts

Charlotte Schubert
WORLD OF REPRODUCTIVE BIOLOGY
Biol Reprod November 2013 89 (5) 106, 1-3;doi:10.1095/biolreprod.113.113860
Full Text **Full Text (PDF)**

Research Articles

Embryo

Arlene May A. Laeno, Dana Ann A. Tamashiro, and Vernadeth B. Alarcon
Rho-Associated Kinase Activity Is Required for Proper Morphogenesis of the Inner Cell Mass in the Mouse Blastocyst
Biol Reprod November 2013 89 (5) 122, 1-13; published ahead of printAugust 14, 2013, doi:10.1095/biolreprod.113.109470
Abstract **Full Text** **Full Text (PDF)** **Supplemental Data**

Summary: Rho-associated kinase (ROCK) activity is required for normal inner cell mass morphogenesis, including aggregation into a compact mass and segregation into extraembryonic and embryonic tissue layers.

Da-Wei Tang, Yuan Fang, Zhen-Xing Liu, Yi Wu, Xian-Long Wang,Shuan Zhao, Guo-Cai Han, and Shen-Ming Zeng
The Disturbances of Endoplasmic Reticulum Calcium Homeostasis Caused by Increased Intracellular Reactive Oxygen Species Contributes to Fragmentation in Aged Porcine Oocytes
Biol Reprod November 2013 89 (5) 124, 1-9; published ahead of printOctober 2, 2013, doi:10.1095/biolreprod.113.111302
Abstract **Full Text** **Full Text (PDF)** **Supplemental Data**

Summary: Increased intracellular ROS damages ER calcium homeostasis, resulting in the disorder ooplasmic calcium signal, which causes fragmentation of porcine MII oocytes during aging.

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Female Reproductive Tract

Elke Winterhager, Alexandra Gellhaus, Sandra M. Blois, Lesley A. Hill,Kevin J. Barr, and Gerald M. Kidder
Decidual Angiogenesis and Placental Orientation Are Altered in Mice Heterozygous for a Dominant Loss-of-Function *Gja1*(Connexin43) Mutation
Biol Reprod November 2013 89 (5) 111, 1-12; published ahead of printSeptember 18, 2013, doi:10.1095/biolreprod.113.111690
Abstract **Full Text** **Full Text (PDF)**

Summary: Heterozygous mutation of *Gja1* (Connexin43) leads to enhanced neoangiogenesis and upregulation of proangiogenic factors in mouse decidual tissue, which results in dysmorphic placentation and fetal growth restriction.

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Gamete Biology

Manuel Ramón, Ana Josefa Soler, José Antonio Ortiz,Olga García-Alvarez, Alejandro Maroto-Morales, Eduardo R.S. Roldan,and José Julián Garde
Sperm Population Structure and Male Fertility: An Intraspecific Study of Sperm Design and Velocity in Red Deer
Biol Reprod November 2013 89 (5) 110, 1-7; published ahead of printSeptember 11, 2013, doi:10.1095/biolreprod.113.112110
Abstract **Full Text** **Full Text (PDF)**

Summary: Analyses of sperm subpopulation structure revealed that males with high fertility have ejaculates with high percentages of sperm with fast and linear velocity and small and elongated heads.

Xiao-Meng Li, Chao Yu, Zhong-Wei Wang, Yin-Li Zhang, Xiao-Man Liu,Dawang Zhou, Qing-Yuan Sun, and Heng-Yu Fan
DNA Topoisomerase II Is Dispensable for Oocyte Meiotic Resumption but Is Essential for Meiotic Chromosome Condensation and Separation in Mice
Biol Reprod November 2013 89 (5) 118, 1-11; published ahead of printSeptember 18, 2013, doi:10.1095/biolreprod.113.110692
Abstract **Full Text** **Full Text (PDF)**

Summary: DNA topoisomerase II plays essential roles during meiotic chromosome condensation and separation.

Shavahn C. Loux, Kristin R. Crawford, Nancy H. Ing,Lauro González-Fernández, Beatriz Macías-García, Charles C. Love,Dickson D. Varner, Isabel C. Velez,
CatSper and the Relationship of Hyperactivated Motility to Intracellular Calcium and pH Kinetics in Equine Sperm
Biol Reprod November 2013 89 (5) 123, 1-15; published ahead of printSeptember 18, 2013, doi:10.1095/biolreprod.113.111708

Abstract **Full Text** **Full Text (PDF)** **Supplemental Data**

Summary: CATSPER 1 protein is present in equine sperm and appears to modulate calcium influx in response to increasing intracellular pH, however, there are species-specific differences in the structure of this protein and in the relationship of calcium influx to hyperactivated motility.

Justine L. Garner, Kirsten M. Niles, Serge McGraw, Jonathan R. Yeh,Duncan W. Cushnie, Louis Hermo, Makoto C. Nagano,and Jacquetta M. Trasler
Stability of DNA Methylation Patterns in Mouse Spermatogonia Under Conditions of MTHFR Deficiency and Methionine Supplementation
Biol Reprod November 2013 89 (5) 125, 1-14; published ahead of printSeptember 18, 2013, doi:10.1095/biolreprod.113.109066
Abstract **Full Text** **Full Text (PDF)** **Supplemental Data**

Summary: Despite high MTHFR expression in male germ cells during DNA methylation acquisition, haploinsufficiency did not affect methylation in spermatogonia and only altered DNA methylation in spermatogonial stem cell cultures when methionine concentrations varied.

Melissa L. Vadnais, Haig K. Aghajanian, Angel Lin,and George L. Gerton
Signaling in Sperm: Toward a Molecular Understanding of the Acquisition of Sperm Motility in the Mouse Epididymis
Biol Reprod November 2013 89 (5) 127, 1-10; published ahead of printSeptember 4, 2013, doi:10.1095/biolreprod.113.110163
Abstract **Full Text** **Full Text (PDF)** **Supplemental Movies**

Summary: Caput epididymal sperm become motile after exposure to extracellular ATP.

Nilam Sinha, Pawan Puri, Angus C. Nairn,and Srinivasan Vijayaraghavan
Selective Ablation of *Ppp1cc* Gene in Testicular Germ Cells Causes Oligo-Teratozoospermia and Infertility in Mice
Biol Reprod November 2013 89 (5) 128, 1-15; published ahead of printOctober 2, 2013, doi:10.1095/biolreprod.113.110239
Abstract **Full Text** **Full Text (PDF)**

Summary: PPP1CC1 expression in Sertoli cells and premeiotic germ cells does not substitute for the loss of the PPP1CC2 isoform in developing germ cells.

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Neuroendocrinology

Verónica Berta Dorfman, Lucía Saucedo, Noelia Paula Di Giorgio,Pablo Ignacio Felipe Inserra, Nicolás Fraunhoffer,Noelia Paola Leopardo, Julia Halperín, Vic
Variation in Progesterone Receptors and GnRH Expression in the Hypothalamus of the Pregnant South American Plains Vizcacha,*Lagostomus maximus* (Mammalia, Rodentia)
Biol Reprod November 2013 89 (5) 115, 1-12; published ahead of printOctober 2, 2013, doi:10.1095/biolreprod.113.107995
Abstract **Full Text** **Full Text (PDF)** **Supplemental Data**

Summary: The pregnant South American plains vizcacha has an active hypothalamic-hypophyseal axis that correlates with ovarian folliculogenesis and unruptured follicles luteinize during the midgestation period.

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Ovary

Yoshikazu Kitahara, Kazuto Nakamura, Kayoko Kogure,and Takashi Minegishi
Role of *microRNA-136-3p* on the Expression of Luteinizing Hormone-Human Chorionic Gonadotropin Receptor mRNA in Rat Ovaries
Biol Reprod November 2013 89 (5) 114, 1-10; published ahead of printSeptember 11, 2013, doi:10.1095/biolreprod.113.109207
Abstract **Full Text** **Full Text (PDF)**

Summary: *miR-136-3p* is involved in the down-regulation of *LHR*mRNA after a preovulatory LH surge.

Jennifer R. Wardell, Kendra M. Hodgkinson, April K. Binder,Kimberly A. Seymour, Kenneth S. Korach, Barbara C. Vanderhyden,and Richard N. Freiman
Estrogen Responsiveness of the TFIID Subunit TAF4B in the Normal Mouse Ovary and in Ovarian Tumors
Biol Reprod November 2013 89 (5) 116, 1-9; published ahead of printSeptember 25, 2013, doi:10.1095/biolreprod.113.111336
Abstract **Full Text** **Full Text (PDF)** **Supplemental Data**

Summary: The transcription factor TAF4B, which is required for murine fertility, is upregulated by estrogen in the normal mouse ovary and in ovarian tumors via nuclear estrogen receptors.

Jennifer Claire Price and Iain Martin Sheldon
Granulosa Cells from Emerged Antral Follicles of the Bovine Ovary

Initiate Inflammation in Response to Bacterial Pathogen-Associated Molecular Patterns via Toll-Like Receptor Pathways
Biol Reprod November 2013 89 (5) 119, 1-12; published ahead of printOctober 2, 2013, doi:10.1095/biolreprod.113.110965
Abstract **Full Text** **Full Text (PDF)** **Supplemental Data**

Summary: Rapid inflammatory responses by granulosa cells to bacterial pathogen-associated molecular patterns are mediated by TLR2 and TLR4, providing a mechanism for how bacterial infections of tissues that are distant to the ovary perturb emerged antral follicle function.

Katherine L. Rosewell, Feixue Li, Muraly Puttabyatappa, James W. Akin,Mats Brännström, and Thomas E. Curry, Jr.
Ovarian Expression, Localization, and Function of Tissue Inhibitor of Metalloproteinase 3 (TIMP3) During the Periovulatory Period of the Human Menstrual Cycle
Biol Reprod November 2013 89 (5) 121, 1-7; published ahead of printSeptember 18, 2013, doi:10.1095/biolreprod.112.106989
Abstract **Full Text** **Full Text (PDF)**

Summary: Human chorionic gonadotropin stimulates the production of TIMP3 expression in human granulosa cells to regulate proteolytic remodeling as the follicle progresses toward ovulation.

Shuhong Yang, Shuo Wang, Aiyue Luo, Ting Ding, Zhiwen Lai,Wei Shen, Xiangyi Ma, Chen Cao, Liangyan Shi, Jingjing Jiang,Fangfang Rong, Lanfang Ma, Y
Expression Patterns and Regulatory Functions of MicroRNAs During the Initiation of Primordial Follicle Development in the Neonatal Mouse Ovary
Biol Reprod November 2013 89 (5) 126, 1-11; published ahead of printAugust 28, 2013, doi:10.1095/biolreprod.113.107730
Abstract **Full Text** **Full Text (PDF)** **Supplemental Data**

Summary: *miR-145* regulates the initiation of primordial follicle development and maintains the primordial follicle pool growth arrest by targeting the *Tgfbr2* and Smad signaling pathway.

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Pregnancy

Lucia Y. Brown, Elizabeth A. Bonney, Renju S. Raj, Brian Nielsen,and Stephen Brown
Generalized Disturbance of DNA Methylation in the Uterine Decidua in the CBA/J × DBA/2 Mouse Model of Pregnancy Failure
Biol Reprod November 2013 89 (5) 120, 1-6; published ahead of printOctober 9, 2013, doi:10.1095/biolreprod.113.113142
Abstract **Full Text** **Full Text (PDF)**

Summary: DNA methylation in the uterine decidua of CBA/J × DBA/2 mouse pregnancies is highly abnormal, suggesting a role for epigenetics in pregnancy failure.

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Reproductive Technology

Aileen N. Tamura, Thomas T.F. Huang, and Yusuke Marikawa
Impact of Vitrification on the Meiotic Spindle and Components of the Microtubule-Organizing Center in Mouse Mature Oocytes
Biol Reprod November 2013 89 (5) 112, 1-10; published ahead of printSeptember 11, 2013, doi:10.1095/biolreprod.113.108167
Abstract **Full Text** **Full Text (PDF)**

Summary: The integrity of the meiotic spindle in the metaphase II oocyte, including the localization of microtubule bundles and distribution of the MTOC components, is dynamically altered during the course of the vitrification process.

Hong-Cui Zhao, Yue Zhao, Min Li, Jie Yan, Li Li, Rong Li, Ping Liu,Yang Yu, and Jie Qiao
Aberrant Epigenetic Modification in Murine Brain Tissues of Offspring from Preimplantation Genetic Diagnosis Blastomere Biopsies
Biol Reprod November 2013 89 (5) 117, 1-10; published ahead of printOctober 2, 2013, doi:10.1095/biolreprod.113.109926
Abstract **Full Text** **Full Text (PDF)** **Supplemental Data**

Summary: Blastomere biopsy, an essential micromanipulation procedure during PGD, not only decreases the developmental competence of the resulting embryos, but impairs the behavior in offspring, which possibly reflects aberrant epigenetic modification and methylation patterns.

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Testis

Jianqiang Bao, Jingwen Wu, Andrew S. Schuster, Grant W. Hennig,and Wei Yan
Expression Profiling Reveals Developmentally Regulated lncRNA Repertoire in the Mouse Male Germline

Biol Reprod November 2013 89 (5) 107, 1-12; published ahead of printSeptember 18, 2013, doi:10.1095/biolreprod.113.113308

Abstract **Full Text** **Full Text (PDF)** **Supplemental Data**

Summary: Dynamic expression of large noncoding RNAs and their interactions with chromatin-remodeling proteins suggests a critical role in the epigenetic regulation of male germline development and spermatogenesis.

Yong-An Lee, Yong-Hee Kim, Bang-Jin Kim, Mi-Sun Jung,Joong-Hyuck Auh, Ju-Tae Seo, Yong-Seog Park, Sang-Hoon Lee,and Buom-Yong Ryu

Cryopreservation of Mouse Spermatogonial Stem Cells in Dimethylsulfoxide and Polyethylene Glycol

Biol Reprod November 2013 89 (5) 109, 1-9; published ahead of printSeptember 11, 2013, doi:10.1095/biolreprod.113.111195

Abstract **Full Text** **Full Text (PDF)** **Supplemental Data**

OPEN ACCESS ARTICLE

Summary: Spermatogonial stem cells cryopreserved in PEG have greater post-thaw recovery rate, culture potential, and stem cell activity than stem cells cryopreserved in standard freezing media.

Qi-En Yang, Ivy Gwost, Melissa J. Oatley, and Jon M. Oatley

Retinoblastoma Protein (RB1) Controls Fate Determination in Stem Cells and Progenitors of the Mouse Male Germline

Biol Reprod November 2013 89 (5) 113, 1-11; published ahead of printOctober 2, 2013, doi:10.1095/biolreprod.113.113159

Abstract **Full Text** **Full Text (PDF)** **Supplemental Data**

Summary: RB1 expression in spermatogonia influences specification of a stem cell pool and spermatogenic lineage commitment.

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Toxicology

Jackye Peretz, Steven L. Neese, and Jodi A. Flaws

Mouse Strain Does Not Influence the Overall Effects of Bisphenol A-Induced Toxicity in Adult Antral Follicles

Biol Reprod November 2013 89 (5) 108, 1-10; published ahead of printSeptember 11, 2013, doi:10.1095/biolreprod.113.111864

Abstract **Full Text** **Full Text (PDF)** **Supplemental Data**

Summary: Mouse strain does not influence BPA-induced inhibition of follicle growth or steroidogenesis.