June 1, 2014; 90 (6)

Clear Get All Checked Abstracts

Charlotte Schubert
WORLD OF REPRODUCTIVE BIOLOGY
Biol Reprod June 2014 90 (6) 115, 1-2;doi:10.1095/biolreprod.114.119750
Full Text **Full Text (PDF)**

Minireview

Zhao-Jia Ge, Cui-Lian Zhang, Heide Schatten, and Qing-Yuan Sun
Maternal Diabetes Mellitus and the Origin of Non-Communicable Diseases in Offspring: The Role of Epigenetics
Biol Reprod June 2014 90 (6) 139, 1-6; published ahead of print May 14, 2014, doi:10.1095/biolreprod.114.118141
Abstract **Full Text** **Full Text (PDF)** **Author Biosketches**

Summary: Epigenetics may play a key role in deleterious effects, which can be transmitted between generations, on offspring of diabetic females, and compromised oocyte quality may be one of the origins of the adverse effects.

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Research Articles

Gamete Biology

Kaibiao Xu, Lele Yang, Danyun Zhao, Yaoyao Wu, and Huayu Qi
AKAP3 Synthesis Is Mediated by RNA Binding Proteins and PKA Signaling During Mouse Spermiogenesis
Biol Reprod June 2014 90 (6) 119, 1-14; published ahead of printMarch 19, 2014, doi:10.1095/biolreprod.113.116111
Abstract **Full Text** **Full Text (PDF)** **Supplemental Data**

Summary: Expression of sperm-specific *Akap3* is regulated by RNA binding proteins and the PKA signaling pathway during mouse spermiogenesis.

Petr Jansa, David Homolka, Radek Blatny, Martin Mistrik, Jiri Bartek,and Jiri Forejt
Dosage Compensation of an Aneuploid Genome in Mouse Spermatogenic Cells
Biol Reprod June 2014 90 (6) 124, 1-9; published ahead of print April 30, 2014, doi:10.1095/biolreprod.114.118497
Abstract **Full Text** **Full Text (PDF)** **Supplemental Data**

Summary: Genes which display dosage-dependent expression in somatic cells within a segmental autosomal trisomy, show dosage compensation associated with meiotic silencing of unsynapsed chromatin in pachytene spermatocytes.

Le-Jun Li, Feng-Bin Zhang, Shu-Yuan Liu, Yong-Hong Tian, Fang Le,Li-Ya Wang, Hang-Ying Lou, Xiang-Rong Xu, He-Feng Huang,and Fan Jin
Human Sperm Devoid of Germinal Angiotensin-Converting Enzyme Is Responsible for Total Fertilization Failure and Lower Fertilization Rates by Conventional In Vitro Fertilization
Biol Reprod June 2014 90 (6) 125, 1-7; published ahead of print April 30, 2014, doi:10.1095/biolreprod.113.114827
Abstract **Full Text** **Full Text (PDF)** **Supplemental Data**

Summary: Germinal ACE may be used as a marker to diagnose fertilization failure, and lower fertilization rates are functionally associated with reduced/absent expression of ACE in patient sperm.

Matyas Flemr, Martin Moravec, Veronika Libova, Radislav Sedlacek,and Petr Svoboda
***Lin28a* Is Dormant, Functional, and Dispensable During Mouse Oocyte-to-Embryo Transition**
Biol Reprod June 2014 90 (6) 131, 1-9; published ahead of print May 14, 2014, doi:10.1095/biolreprod.114.118703
Abstract **Full Text** **Full Text (PDF)** **Supplemental Data**
OPEN ACCESS ARTICLE

Summary: Murine *Lin28a* encodes a dormant maternal factor that is translated during oocyte-to-embryo transition and suppresses expression of Let-7 during zygotic genome activation.

Kenji Murata, Fred S. Conte, Elizabeth McInnis, Tak Hou Fong,and Gary N. Cherr
Identification of the Origin and Localization of Chorion (Egg Envelope) Proteins in an Ancient Fish, the White Sturgeon,*Acipenser transmontanus*
Biol Reprod June 2014 90 (6) 132, 1-12; published ahead of print May 7, 2014, doi:10.1095/biolreprod.113.116194
Abstract **Full Text** **Full Text (PDF)** **Supplemental Figure S1**

Summary: The chorion in white sturgeon eggs consists of proteins originating from cells that include hepatocytes, follicle cells, and oocytes.

Samantha Richard and Jay M. Baltz

Prophase I Arrest of Mouse Oocytes Mediated by Natriuretic Peptide Precursor C Requires GJA1 (connexin-43) and GJA4 (connexin-37) Gap Junctions in the Antral Follicle and Cumulus-Oocyte Complex

Biol Reprod June 2014 90 (6) 137, 1-10; published ahead of print May 7, 2014, doi:10.1095/biolreprod.114.118505

Abstract **Full Text** **Full Text (PDF)**

Summary: Disruption of gap junctions by isoform-specific connexin mimetic peptides indicates that both GJA1 (connexin-43) and GJA4 (connexin-37) gap junctions are required for maintenance of meiotic arrest of mouse germinal vesicle oocytes by natriuretic peptide precursor C.

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Immunology

Zu-Chen Liu, Yi-Lun Xie, Chai-Ju Chang, Chia-Ming Su, Yu-Hui Chen,San-Yuan Huang, Rosemary L. Walzem, and Shuen-Ei Chen

Feed Intake Alters Immune Cell Functions and Ovarian Infiltration in Broiler Hens: Implications for Reproductive Performance

Biol Reprod June 2014 90 (6) 134, 1-8; published ahead of print May 14, 2014, doi:10.1095/biolreprod.113.115824

Abstract **Full Text** **Full Text (PDF)** **Supplemental Figure S1**

Summary: Leukocyte dysfunction contributes to impaired ovarian activities of overfed broiler hens.

Sadhat S. Walusimbi and Joy L. Pate

Luteal Cells from Functional and Regressing Bovine Corpora Lutea Differentially Alter the Function of Gamma Delta T Cells

Biol Reprod June 2014 90 (6) 140, 1-10; published ahead of print May 14, 2014, doi:10.1095/biolreprod.114.117564

Abstract **Full Text** **Full Text (PDF)**

Summary: Luteal cells induce changes in γδ T cell function, but these changes are dependent on the type of T cell and the functional status of the corpus luteum.

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Male Reproductive Tract

Youichi Sato, Teruaki Iwamoto, Toshikatsu Shinka, Shiari Nozawa,Miki Yoshiike, Eitetsue Koh, Jiro Kanaya, Mikio Namiki,Kiyomi Matsumiya, Akira Tsujimur

Y Chromosome gr/gr Subdeletion Is Associated with Lower Semen Quality in Young Men from the General Japanese Population but Not in Fertile Japanese Men

Biol Reprod June 2014 90 (6) 116, 1-8; published ahead of print April 23, 2014, doi:10.1095/biolreprod.114.118810

Abstract **Full Text** **Full Text (PDF)** **Supplemental Tables S1-S8**

Summary: The gr/gr subdeletion affects semen quality in the general Japanese population.

Andrew D. Westmuckett, Edward B. Nguyen, Oana M. Herlea-Pana,Antonio Alvau, Ana M. Salicioni, and Kevin L. Moore

Impaired Sperm Maturation in *Rnase9* Knockout Mice

Biol Reprod June 2014 90 (6) 120, 1-10; published ahead of print April 9, 2014, doi:10.1095/biolreprod.113.116863

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

Summary: Targeted disruption of *Rnase9*, an inactive epididymis-specific ribonuclease A superfamily member, impairs sperm maturation.

Melissa L. Vadnais, Wenlei Cao, Haig K. Aghajanian, Lisa Haig-Ladewig,Angel M. Lin, Osama Al-Alao, and George L. Gerton

Adenine Nucleotide Metabolism and a Role for AMP in Modulating Flagellar Waveforms in Mouse Sperm

Biol Reprod June 2014 90 (6) 128, 1-14; published ahead of print April 16, 2014, doi:10.1095/biolreprod.113.114447

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

Summary: ATP, ADP, and AMP regulate motility in mouse sperm through adenylate kinases.

Lu Wang, Wenjing Liu, Weidong Zhao, Gendi Song, Guishuan Wang,Xiaorong Wang, and Fei Sun

Phosphorylation of CDK2 on Threonine 160 Influences Silencing of Sex Chromosome During Male Meiosis

Biol Reprod June 2014 90 (6) 138, 1-7; published ahead of print April 23, 2014, doi:10.1095/biolreprod.113.116624

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

Summary: Phosphorylation of CDK2 isoform 1 at threonine 160 localizes to the sites of asynapsis and the sex body and plays a special role in silencing of sex chromosome-linked genes by interacting with gamma-H2AX.

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Mechanisms of Hormone Action

Hanyia Naqvi, Sharif Sakr, Thomas Presti, Graciela Krikun,Barry Komm, and Hugh S. Taylor
Treatment with Bazedoxifene and Conjugated Estrogens Results in Regression of Endometriosis in a Murine Model
Biol Reprod June 2014 90 (6) 121, 1-7; published ahead of print April 16, 2014, doi:10.1095/biolreprod.113.114165
Abstract Full Text Full Text (PDF)

Summary: Treatment of murine experimental endometriosis with bazedoxifene and conjugated estrogens results in lesion regression through *Esr1* regulation.

Rachel Armoza-Zvuloni, Esti Kramarsky-Winter, Yossi Loya,Ami Schlesinger, and Hanna Rosenfeld
Trioecy, a Unique Breeding Strategy in the Sea Anemone *Aiptasia diaphana* and Its Association with Sex Steroids
Biol Reprod June 2014 90 (6) 122, 1-8; published ahead of print April 30, 2014, doi:10.1095/biolreprod.113.114116
Abstract Full Text Full Text (PDF)

Summary: Trioecy, a rare breeding system previously known only in plants, is documented in the sea anemone *Aiptasia diaphana*.

Theresa M. Casey, Jennifer Crodian, Emily Erickson,Karen K. Kuropatwinski, Anatoli S. Gleiberman, and Marina P. Antoch
Tissue-Specific Changes in Molecular Clocks During the Transition from Pregnancy to Lactation in Mice
Biol Reprod June 2014 90 (6) 127, 1-15; published ahead of print April 23, 2014, doi:10.1095/biolreprod.113.116137
Abstract Full Text Full Text (PDF) Supplemental Data

Summary: Tissue-specific changes observed in SCN, liver, and mammary molecular clock dynamics between late pregnancy and early lactation reflect a mechanistic response to primary input cues during physiological state.

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Ovary

Akane Hagiwara, Katsueki Ogiwara, Yoshinao Katsu,and Takayuki Takahashi
Luteinizing Hormone-Induced Expression of Ptger4b, a Prostaglandin E_2 Receptor Indispensable for Ovulation of the Medaka *Oryzias latipes*, Is Regulated by a Genomic Mechanism Involving Nuclear Progestin Receptor
Biol Reprod June 2014 90 (6) 126, 1-14; published ahead of print April 30, 2014, doi:10.1095/biolreprod.113.115485
Abstract Full Text Full Text (PDF)

Summary: Nuclear progestin receptor is directly involved in the expression of Ptger4b, a prostaglandin E2 receptor that is dramatically induced by an LH surge in the preovulatory follicle of the teleost medaka.

Charlène Rico, Aurore Dodelet-Devillers, Marilène Paquet, Mayra Tsoi,Evelyne Lapointe, Peter Carmeliet, and Derek Boerboom
HIF1 Activity in Granulosa Cells Is Required for FSH-Regulated*Vegfa* Expression and Follicle Survival in Mice
Biol Reprod June 2014 90 (6) 135, 1-7; published ahead of print May 22, 2014, doi:10.1095/biolreprod.113.115634
Abstract Full Text Full Text (PDF) Supplemental Data

Summary: Insight into the mechanism whereby FSH regulates *Vegfa*expression in granulosa cells in vivo and the physiological roles of*Vegfa* in ovarian follicle development.

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Pregnancy

Rui Wang, Yan-Li Dang, Ru Zheng, Yue Li, Weiwei Li, Xiaoyin Lu,Li-Juan Wang, Cheng Zhu, Hai-Yan Lin, and Hongmei Wang
Live Cell Imaging of In Vitro Human Trophoblast Syncytialization
Biol Reprod June 2014 90 (6) 117, 1-10; published ahead of print April 16, 2014, doi:10.1095/biolreprod.113.114892
Abstract Full Text Full Text (PDF) Supplemental Movies S1-S5

Summary: Color-based live cell imaging systems delineates the complexity of the process of trophoblast fusion.

Irving L.M.H. Aye, Susanne Lager, Vanessa I. Ramirez,Francesca Gaccioli, Donald J. Dudley, Thomas Jansson,and Theresa L. Powell
Increasing Maternal Body Mass Index Is Associated with Systemic Inflammation in the Mother and the Activation of

Distinct Placental Inflammatory Pathways
Biol Reprod June 2014 90 (6) 129, 1-9; published ahead of print April 23, 2014, doi:10.1095/biolreprod.113.116186
Abstract **Full Text** **Full Text (PDF)** **Supplemental Data**

Summary: Pre-/early pregnancy BMI is positively correlated with maternal cytokines MCP-1 and TNFalpha, and activation of placental inflammatory pathways p38-MAPK and STAT3.

Dong Won Kim, Sarah L. Young, David R. Grattan,and Christine L. Jasoni
Obesity During Pregnancy Disrupts Placental Morphology, Cell Proliferation, and Inflammation in a Sex-Specific Manner Across Gestation in the Mouse
Biol Reprod June 2014 90 (6) 130, 1-11; published ahead of print May 14, 2014, doi:10.1095/biolreprod.113.117259
Abstract **Full Text** **Full Text (PDF)** **Supplemental Data**

Summary: Maternal obesity induces placental inflammation through activation of resident macrophages in an age- and sex-specific manner in the mouse.

Shuangdi Li, Yanqiu Wang, and Jiarong Zhang
L-Selectin Ligands Expression in Human Fallopian Tube Epithelia of Tubal Pregnancies
Biol Reprod June 2014 90 (6) 133, 1-6; published ahead of print May 14, 2014, doi:10.1095/biolreprod.113.113654
Abstract **Full Text** **Full Text (PDF)**

Summary: Increased expression of L-selectin ligands might be involved in the implantation process in a tubal pregnancy.

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Testis

Hana M. Odeh, Colin Kleinguetl, Renshan Ge, Barry R. Zirkin,and Haolin Chen
Regulation of the Proliferation and Differentiation of Leydig Stem Cells in the Adult Testis
Biol Reprod June 2014 90 (6) 123, 1-7; published ahead of print April 16, 2014, doi:10.1095/biolreprod.114.117473
Abstract **Full Text** **Full Text (PDF)**

Summary: PDGF-AA and PDGF-BB have unique roles in promoting or inhibiting Leydig stem cell proliferation and differentiation.

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Toxicology

Annick N. Enangue Njembele, Janice L. Bailey, and Jacques J. Tremblay
In Vitro Exposure of Leydig Cells to an Environmentally Relevant Mixture of Organochlorines Represses Early Steps of Steroidogenesis
Biol Reprod June 2014 90 (6) 118, 1-10; published ahead of print April 16, 2014, doi:10.1095/biolreprod.113.116368
Abstract **Full Text** **Full Text (PDF)**

Summary: An environmentally relevant mixture of organochlorines disrupts Leydig cell steroidogenesis by decreasing STAR, CYP11A1, and ADXR protein levels, all involved in the early steps of steroidogenesis.

Patrick R. Hannon, Jackye Peretz, and Jodi A. Flaws
Daily Exposure to Di(2-ethylhexyl) Phthalate Alters Estrous Cyclicity and Accelerates Primordial Follicle Recruitment Potentially Via Dysregulation of the Phosphatidylinositol 3-Kinase Signaling Pathway in Adult Mice
Biol Reprod June 2014 90 (6) 136, 1-11; published ahead of print May 7, 2014, doi:10.1095/biolreprod.114.119032
Abstract **Full Text** **Full Text (PDF)**

Summary: Di(2-ethylhexyl) phthalate exposure for 10 and 30 days potentially disrupts estrous cyclicity and accelerates early folliculogenesis via a mechanism involving dysregulation of phosphatidylinositol 3-kinase signaling.