

April 1, 2013; 88 (4)

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Charlotte Schubert

WORLD OF REPRODUCTIVE BIOLOGY

Biol Reprod April 2013 88 (4) 82, 1-3; doi:10.1095/biolreprod.113.108324

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

Ann E. Sutherland

The Glands Have It

Biol Reprod April 2013 88 (4) 94, 1-2; published ahead of print March 13, 2013, doi:10.1095/biolreprod.113.108944

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

Summary: In this issue of *Biology of Reproduction*, a study by Filant and Spencer uses the uterine gland "knockout" (PUGKO) mouse model to determine the functional effects on implantation and decidualization of an absence of uterine glands.

James A. Foster

Baby Brother Acrosin-Binding Protein (ACRBP) Says, "Look at Me Now!"

Biol Reprod April 2013 88 (4) 106, 1-3; published ahead of print March 20, 2013, doi:10.1095/biolreprod.113.109413

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

Summary: Kanemori et al. make a significant contribution in this issue of *Biology of Reproduction* to our understanding of the acrosome with their discovery of a new alternative splice variant of the acrosin-binding protein (*Acrbp*) gene.

Minireview Jamila R. Momand, Guogang Xu, and Christi A. Walter**The Paternal Age Effect: A Multifaceted Phenomenon**

Biol Reprod April 2013 88 (4) 108, 1-9; published ahead of print March 20, 2013, doi:10.1095/biolreprod.112.103440

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

Summary: Multiple mechanisms, including increased mutagenesis with age, positive selection of mutant germ cells, and decreased DNA repair, contribute to genetic instability in spermatogenic cells in older fathers.

[Clear](#) [Get All Checked Abstracts](#)**Research Articles****Embryo** Verónica M. Negrón-Pérez, Franklin D. Echevarría, Sarah R. Huffman, and Rocío Melissa Rivera**Determination of Allelic Expression of *H19* in Pre- and Peri-Implantation Mouse Embryos**

Biol Reprod April 2013 88 (4) 97, 1-11; published ahead of print March 13, 2013, doi:10.1095/biolreprod.112.105882

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

Summary: Mouse embryos normally express *H19* from both parental alleles in the primary trophoblast giant cell-containing section at peri-implantation.

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Biol Reprod April 2013 88 (4) 99, 1-8; published ahead of print February 27, 2013, doi:10.1095/biolreprod.112.104653

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

Summary: Artificial intelligence methods can predict semen characteristics from environmental factors and life habits accurately using data collected only by questionnaires.

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

- Justyna Filant and Thomas E. Spencer
Endometrial Glands Are Essential for Blastocyst Implantation and Decidualization in the Mouse Uterus

Biol Reprod April 2013 88 (4) 93, 1-9; published ahead of print February 13, 2013, doi:10.1095/biolreprod.113.107631

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

Summary: Uterine glands and their secretions have important biological roles in blastocyst implantation and stromal cell decidualization in the uterus.

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Gamete Biology

- Takanori Nishimura, Koji Sugiura, and Kunihiro Naito
A-Kinase Anchor Protein 1 (AKAP1) Regulates cAMP-Dependent Protein Kinase (PKA) Localization and Is Involved in Meiotic Maturation of Porcine Oocytes

Biol Reprod April 2013 88 (4) 85, 1-9; published ahead of print February 20, 2013, doi:10.1095/biolreprod.112.106351

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

Summary: The regulation of PKA localization by A-kinase anchor proteins is involved in the meiotic resumption and in oocyte maturation but not in the meiotic incompetence of porcine growing oocytes.

- Fanny Odet, Scott Gabel, Robert E. London, Erwin Goldberg, and Edward M. Eddy
Glycolysis and Mitochondrial Respiration in Mouse LDHC-Null Sperm

Biol Reprod April 2013 88 (4) 95, 1-7; published ahead of print March 13, 2013, doi:10.1095/biolreprod.113.108530

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

Summary: Mouse sperm mitochondrial respiration is suppressed and glycolysis is favored in the presence of glucose.

- Huanghui Tang, Chongwen Duan, Reiner Bleher, and Erwin Goldberg
Human Lactate Dehydrogenase A (LDHA) Rescues Mouse Ldhc-Null Sperm Function

Biol Reprod April 2013 88 (4) 96, 1-6; published ahead of print March 6, 2013, doi:10.1095/biolreprod.112.107011

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

Summary: Lactate dehydrogenase-C (*Ldhc*)-null sperm fertility was rescued by transgenic *LDHA*.

- Edward D. Tarnawa, Michael D. Baker, Gina M. Aloisio, Bruce R. Carr, and Diego H. Castrillon
Gonadal Expression of Foxo1, but Not Foxo3, Is Conserved in Diverse Mammalian Species

Biol Reprod April 2013 88 (4) 103, 1-11; published ahead of print March 13, 2013, doi:10.1095/biolreprod.112.105791

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

Summary: Gonadal expression of Foxo1 is conserved in mammals, but Foxo3 expression in primordial oocytes is limited to rodents.

- Yoshinori Kanemori, Jin-Hyeob Ryu, Mai Sudo, Yasushi Niida-Araida, Kunihiro Kodaira, Mika Takenaka, Nobuhisa Kohno, Shin Sugiura, Shin-ichi Kashiwabara
Two Functional Forms of ACRBP/sp32 Are Produced by Pre-mRNA Alternative Splicing in the Mouse

Biol Reprod April 2013 88 (4) 105, 1-8; published ahead of print February 20, 2013, doi:10.1095/biolreprod.112.107425

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

Summary: Two forms of mouse acrosin-binding protein/sp32 are produced by pre-mRNA alternative splicing and differentially interact with the precursor of acrosin.

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Immunology

- John J. Bromfield and I. Martin Sheldon
Lipopolysaccharide Reduces the Primordial Follicle Pool in the Bovine Ovarian Cortex Ex Vivo and in the Murine Ovary In Vivo

Biol Reprod April 2013 88 (4) 98, 1-9; published ahead of print March 20, 2013, doi:10.1095/biolreprod.112.106914

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

Summary: Bacterial lipopolysaccharide reduces the primordial follicle pool in the ovary of cattle by increasing follicle activation associated with changes in the transcription factors PTEN and FOXO3, and in the mouse by increasing follicle atresia in a TLR4-dependent manner.

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Male Reproductive Tract

- Youichi Sato, Timothy Jinam, Teruaki Iwamoto, Aiko Yamauchi, Issei Imoto, Ituro Inoue, and Atsushi Tajima

Replication Study and Meta-Analysis of Human Nonobstructive Azoospermia in Japanese Populations

Biol Reprod April 2013 88 (4) 87, 1-4; published ahead of print March 6, 2013, doi:10.1095/biolreprod.112.106377

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

Summary: Replication analysis of four nonobstructive azoospermia-associated SNPs demonstrates that three of four SNPs exhibit associations in Japanese men as those previously reported in a Chinese genome-wide association study.

- Rajesh K. Dadhich, Francisco J. Barrionuevo, Francisca M. Real, Darío G. Lupiáñez, Esperanza Ortega, Miguel Burgos, and Rafael Jiménez

Identification of Live Germ-Cell Desquamation as a Major Mechanism of Seasonal Testis Regression in Mammals: A Study in the Iberian Mole (*Talpa occidentalis*)

Biol Reprod April 2013 88 (4) 101, 1-12; published ahead of print March 20, 2013, doi:10.1095/biolreprod.112.106708

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

[OPEN ACCESS ARTICLE](#)

Summary: Seasonal testis regression in the mole is produced by desquamation of live germ cells: a reevaluation of the apoptosis paradigm in mammals.

- Youichi Sato, Toshikatsu Shinka, Teruaki Iwamoto, Aiko Yamauchi, and Yutaka Nakahori

Y Chromosome Haplogroup D2* Lineage Is Associated with Azoospermia in Japanese Males

Biol Reprod April 2013 88 (4) 107, 1-5; published ahead of print March 6, 2013, doi:10.1095/biolreprod.112.105718

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

Summary: The frequency of haplogroup D2* is significantly higher among men with azoospermia than among fertile men.

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Neuroendocrinology

- Xin Qi, Wenyi Zhou, Danqi Lu, Qingqing Wang, Huixian Zhang, Shuisheng Li, Xiaochun Liu, Yong Zhang, and Haoran Lin

Sexual Dimorphism of Steroidogenesis Regulated by GnIH in the Goldfish, *Carassius auratus*

Biol Reprod April 2013 88 (4) 89, 1-7; published ahead of print March 6, 2013, doi:10.1095/biolreprod.112.105114

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

Summary: Goldfish GnIH acts directly and differentially on the gonad and regulates steroidogenesis in the two sexes of goldfish.

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Ovary

- Michelle Myers, Nadera Mansouri-Attia, Rebecca James, Jia Peng, and Stephanie A. Pangas

GDF9 Modulates the Reproductive and Tumor Phenotype of Female *Inha*-Null Mice

Biol Reprod April 2013 88 (4) 86, 1-6; published ahead of print February 27, 2013, doi:10.1095/biolreprod.112.104125

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

Summary: Deletion of GDF9 from the inhibin alpha-null mouse partially rescues the defects in early folliculogenesis but enhances the onset of tumor formation.

- Long Tao Wu, Jerome H.L. Hui, and Ka Hou Chu

Origin and Evolution of Yolk Proteins: Expansion and Functional Diversification of Large Lipid Transfer Protein Superfamily

Biol Reprod April 2013 88 (4) 102, 1-10; published ahead of print February 20, 2013, doi:10.1095/biolreprod.112.104752

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

Summary: Retrotransposition is a driving force for the expansion of large lipid transfer protein family members in animals.

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Pregnancy

- Anastazia Samborski, Alexander Graf, Stefan Krebs, Barbara Kessler, and Stefan Bauersachs

Deep Sequencing of the Porcine Endometrial Transcriptome on Day 14 of Pregnancy

Biol Reprod April 2013 88 (4) 84, 1-13; published ahead of print February 20, 2013, doi:10.1095/biolreprod.113.107870

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

Summary: RNA-Seq analysis of porcine endometria from Day 14 of pregnancy revealed a comprehensive set of genes related to immune response, apoptosis, cell adhesion, invasive growth, and transport

processes, presumably related to embryo attachment.

- Francesca Mossa, Fiona Carter, Siobhan W. Walsh, David A. Kenny, George W. Smith, Janet L.H. Ireland, Thomas B. Hildebrandt, Pat Lonergan, James J. Irel

Maternal Undernutrition in Cows Impairs Ovarian and Cardiovascular Systems in Their Offspring

Biol Reprod April 2013 88 (4) 92, 1-9; published ahead of print February 20, 2013, doi:10.1095/biolreprod.112.107235

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

Summary: Undernutrition during early pregnancy in cattle enhances maternal testosterone without affecting offspring growth, but negatively affects their ovarian follicle reserve, aorta size, and blood pressure.

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Reproductive Technology

- Nader Mobarkey, Natalie Avital, Rachel Heiblum, and Israel Rozenboim

The Effect of Parachlorophenylalanine and Active Immunization Against Vasoactive Intestinal Peptide on Reproductive Activities of Broiler Breeder Hens Photostimulated with Green Light

Biol Reprod April 2013 88 (4) 83, 1-7; published ahead of print January 16, 2013, doi:10.1095/biolreprod.112.103697

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

Summary: Serotonin, and not vasoactive intestinal peptide, is a factor in reproductive decline associated with selective retinal photostimulation by green light.

- Adel R. Moawad, Seang Lin Tan, Baozeng Xu, Hai Ying Chen, and Teruko Taketo

L-Carnitine Supplementation During Vitrification of Mouse Oocytes at the Germinal Vesicle Stage Improves Preimplantation Development Following Maturation and Fertilization In Vitro

Biol Reprod April 2013 88 (4) 104, 1-8; published ahead of print February 27, 2013, doi:10.1095/biolreprod.112.107433

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

Summary: Improvement of preimplantation development from mouse oocytes vitrified at the GV-stage with supplementation of L-carnitine.

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Testis

- Noriko Nakamura, Qunsheng Dai, Jason Williams, Eugenia H. Goulding, William D. Willis, Paula R. Brown, and Edward M. Eddy

Disruption of a Spermatogenic Cell-Specific Mouse Enolase 4 (Eno4) Gene Causes Sperm Structural Defects and Male Infertility

Biol Reprod April 2013 88 (4) 90, 1-12; published ahead of print February 27, 2013, doi:10.1095/biolreprod.112.107128

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

Summary: A novel enolase 4 (ENO4) is required for assembly of the fibrous sheath and is the main source of enolase activity in sperm.

- Tony DeFalco, Anirudh Saraswathula, Anaïs Briot, M. Luisa Iruela-Arispe, and Blanche Capel

Testosterone Levels Influence Mouse Fetal Leydig Cell Progenitors Through Notch Signaling

Biol Reprod April 2013 88 (4) 91, 1-12; published ahead of print March 6, 2013, doi:10.1095/biolreprod.112.106138

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

Summary: Jagged 1-dependent Notch signaling in interstitial cells acts in conjunction with testosterone to regulate fetal Leydig cell differentiation and the transition from fetal to adult Leydig cells.

- Matthew C. Beattie, Haolin Chen, Jinjiang Fan, Vassilios Papadopoulos, Paul Miller, and Barry R. Zirkin

Aging and Luteinizing Hormone Effects on Reactive Oxygen Species Production and DNA Damage in Rat Leydig Cells

Biol Reprod April 2013 88 (4) 100, 1-7; published ahead of print March 13, 2013, doi:10.1095/biolreprod.112.107052

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

Summary: By increasing reactive oxygen species (ROS) production over time in aging Leydig cells, luteinizing hormone (LH) contributes to age-related reduced testosterone production and to age-related DNA damage.

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Toxicology

- Mi-Ryung Park, Sangiliyandi Gurunathan, Yun-Jung Choi, Deug-Nam Kwon, Jae-Woong Han, Ssang-Goo Cho, Chankyu Park, Han Geuk Seo, and Jin-Hoi Kim

Chitosan Nanoparticles Cause Pre- and Postimplantation Embryo Complications in Mice

Biol Reprod April 2013 88 (4) 88, 1-13; published ahead of print March

6, 2013, doi:10.1095/biolreprod.112.107532

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

Summary: Mouse embryos treated with chitosan nanoparticles have impaired mitochondrial function and down-regulation of genes responsible for development; this treatment results in structural and functional abnormalities in the placenta.