Commentary. When an Egg Is Not an Egg: Compromised Maternal mRNA Storage and Stabilization

Marco Conti
Commentary on Medvedev et al., “Absence of MSY2 in mouse oocytes perturbs oocyte growth and maturation, RNA stability, and the transcriptome.”

Minireview. Diverse Roles for Sex Hormone-Binding Globulin in Reproduction

Geoffrey L. Hammond
This review compares the production and functions of sex hormone-binding globulin in different species and evaluates the diverse effects this has on reproduction.

Swine Models of Cystic Fibrosis Reveal Male Reproductive Tract Phenotype at Birth

Fernando Pierucci-Alves, Vladimir Akoyev, Jimmie C. Stewart III, Lin-Hua Wang, Kyathanahalli S. Janardhan, and Bruce D. Schultz
Vas deferens and epididymis abnormalities are present in pigs lacking the cystic fibrosis transmembrane conductance regulator at birth.

Dose-Response of Female Llamas to Ovulation-Inducing Factor from Seminal Plasma

Valeria M. Tanco, Marcelo H. Ratto, Maura Lazzarotto, and Gregg P. Adams
At physiologically relevant doses, ovulation-inducing factor (OIF) from llama seminal plasma has a dose-dependent effect on ovulation rate and corpus luteum formation and function in llamas.

The Major Proteins of Bovine Seminal Plasma Interact with Caseins and Whey Proteins of Milk Extender

Marie-France Lusignan, Annick Bergeron, Michel Lafleur, and Puttaswamy Manjunath
The binder of sperm proteins (BSP1, BSP3, and BSP5), detrimental to sperm during storage, interact with caseins, α-lactalbumin and β-lactoglobulin of skimmed milk, protecting sperm during preservation in liquid and/or frozen state.

The Role of Autophagy in Corpus Luteum Regression in the Rat

JongYeob Choi, MinWha Jo, EunYoung Lee, and DooSeok Choi
Autophagy is involved in rat luteal cell death and is most prominent during corpus luteum regression.

Oxidative Phosphorylation Is Essential for Felid Sperm Function, but Is Substantially Lower in Cheetah (Acinonyx jubatus) Compared to Domestic Cat (Felis catus) Ejaculate

Kimberly A. Terrell, David E. Wildt, Nicola M. Anthony, Barry D. Bavister, S.P. Leibo, Linda M. Penfold, Laurie L. Marker, and Adrienne E. Crosier
Oxidative metabolism is required to maintain felid sperm motility and acrosomal integrity, but mitochondrial membrane potential is substantially lower in cheetah compared to domestic cat ejaculate.

Role of Luteinizing Hormone in Changes in Concentrations of Progesterone and Luteal Blood Flow During the Hours of a Simulated Pulse of 13,14-Dihydro-15-Keto-Prostaglandin F₂α (PGFM) in Heifers

Hemanta K. Shrestha, Guilherme Pugliesi, Mohd A. Beg, and O.J. Ginther
An initial transient increase in progesterone does not occur during a simulated prostaglandin pulse; luteinizing hormone is involved in the progesterone rebound and the elevated luteal blood flow after the prostaglandin peak.

Bisphenol A Increases Mammary Cancer Risk in Two Distinct Mouse Models of Breast Cancer

Kristen Weber Lozada and Ruth A. Keri
Exposure to bisphenol A during fetal life increases mammary tumor susceptibility and during adult life promotes growth of estrogen-dependent breast cancers.

Remodeling of the Cervix and Parturition in Mice Lacking the Progesterone Receptor B Isoform

Steven M. Yellon, Bryan T. Oshiro, Tejas Y. Chhaya, Thomas J. Lechuga, Rejane M. Dias, Alexandra E. Burns, Lindsey Force, and Ede M. Apostolakis
A progesterone-mediated receptor mechanism that does not involve the progesterone receptor-B isoform maintains pregnancy and regulates cervical remodeling and parturition.
Evidence for the Involvement of Zinc in the Association of CRISP1 with Rat Sperm During Epididymal Maturation

Julieta A. Maldera, Gustavo Vasen, Juan I. Ernesto, Mariana Weigel-Muñoz, Débora J. Cohen, and Patricia S. Cuasnicu

Epididymal CRISP1 weakly associates with rat sperm by a zinc-mediated mechanism that involves the formation of high-molecular-weight complexes between the protein and the cation.

Extracellular Matrix Dynamics in Scar-Free Endometrial Repair: Perspectives from Mouse In Vivo and Human In Vitro Studies

Jemma Evans, Tu uhevaha Kaitu’u-Lino, and Lois A. Salamonsen

Dynamic alterations in extracellular matrix expression are essential for endometrial repair.

DNA Damage-Sensing Kinases Mediate the Mouse 2-Cell Embryo’s Response to Genotoxic Stress


Genotoxic stress to the 2-cell mouse embryo causes activation of ATM- and ATR-kinase-dependent cell-cycle blocks: a potential mechanism for preserving genomic integrity.

Short-Term Storage of Human Spermatozoa in Electrolyte-Free Medium Without Freezing Maintains Sperm Chromatin Integrity Better Than Cryopreservation

Jonathan M. Riel, Yasuhiro Yamauchi, Thomas T.F. Huang, John Grove, and Monika A. Ward

Short-term (1 week) storage without freezing of sperm in electrolyte-free medium maintains chromatin integrity better than conventional cryopreservation.

Increased Beta-Oxidation and Improved Oocyte Developmental Competence in Response to L-Carnitine During Ovarian In Vitro Follicle Development in Mice


Ovarian follicles cultured in vitro express luteinizing hormone (LH)-induced factors ADAMTS1 and hyaluronan. L-carnitine does not alter in vitro follicle survival, growth, or differentiation but increases beta-oxidation and improves oocyte quality.

Lactate Dehydrogenase C and Energy Metabolism in Mouse Sperm

Fanny Odet, Scott A. Gabel, Jason Williams, Robert E. London, Erwin Goldberg, and Edward M. Eddy

Lack of LDHC impairs mouse sperm glycolysis but not pyruvate to lactate conversion.

Oocyte and Cumulus Cell Transcripts from Cultured Mouse Follicles Are Induced to Deviate from Normal In Vivo Conditions by Combinations of Insulin, Follicle-Stimulating Hormone, and Human Chorionic Gonadotropin

Flor Sánchez, Sergio Romero, and Johan Smitz

Gene expression in the cumulus-oocyte complex during antral growth is differentially regulated by exposure to high levels of gonadotropins, depending on the background insulin concentration in the culture medium.

Absence of MSY2 in Mouse Oocytes Perturbs Oocyte Growth and Maturation, RNA Stability, and the Transcriptome

Sergey Medvedev, Hua Pan, and Richard M. Schultz

Msy2−/− oocytes exhibit numerous phenotypes including defects in oocyte growth and maturation, RNA stability, and gene expression.

Decreased Oocyte DAZL Expression in Mice Results in Increased Litter Size by Modulating Follicle-Stimulating Hormone-Induced Follicular Growth

Judith R. McNeilly, Elaine A. Watson, Yvonne A.R. White, Alison A. Murray, Norah Spears, and Alan S. McNeilly

Decreased oocyte DAZL expression alters the response of follicles to FSH thereby allowing earlier follicular maturation and survival in low-plasma FSH concentrations; this results in increased litter size.

Mice Lacking the USP2 Deubiquitinating Enzyme Have Severe Male Subfertility Associated with Defects in Fertilization and Sperm Motility

Nathalie Bedard, Yaoming Yang, Mary Gregory, Daniel G. Cyr, Joao Suzuki, Xiaomin Yu, Ri-Cheng Chian, Louis Hermo, Cristian O’Flaherty, Charles E. Smith, Hugh J. Clarke, and Simon S. Wing

The USP2 deubiquitinating enzyme gene is essential for normal fertilization and sperm motility.

Cardiovascular Adaptations of Pregnancy in T and B Cell-Deficient Mice

Suzanne D. Burke, Valérie F. Barrette, Alexandra L. Carter, Jonathan Gravel, Michael A. Adams, and B. Anne Croy

Both T and natural killer lymphocytes may have modulating roles on heart rate and blood pressure in murine pregnancy.

Pituitary Adenylate Cyclase-Activating Polypeptide (PACAP) and Its Receptors in the Zebrafish Ovary: Evidence for Potentially Dual Roles of PACAP in Controlling Final Oocyte Maturation

Rui Zhou, Anthony H.K. Tsang, Shuk-Wa Lau, and Wei Ge

The pituitary adenylate cyclase-activating polypeptide system plays potential dual roles in controlling folliculogenesis and final oocyte maturation via receptors located in different follicular compartments.
Placental ATPase Expression Is a Link Between Multiple Causes of Spontaneous Abortion in Mice

Mukesh Kumar Jaiswal, Alice Gilman-Sachs, Gerard Chaouat, and Kenneth D. Beaman
Placental α2V-ATPase regulates the delicate cytokine and chemokine networks that coordinate the recruitment of macrophages for successful placental development and growth at the feto-maternal interface.

Ultrastructural Study on Human Placentae from Women Subjected to Assisted Reproductive Technology Treatments

Yuan Zhang, Wene Zhao, Yaqin Jiang, Ruyang Zhang, Jing Wang, Chanjuan Li, Haijun Zhao, Li Gao, Yugui Cui, Zuomin Zhou, Jiahao Sha, Jiayin Liu, and Ling Wang
Thickening of the placental barrier, decreased density of apical microvilli, and increased number of vacuoles observed in syncytiotrophoblast have been detected in term placentae derived from women who have undergone assisted reproduction indicating downregulation of maternofetal exchanges in their placentae.

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