Celine J. Guigon and Solange Magre
Germ cells play important roles in the differentiation and maturation of the ovary and in the maintenance of the ovarian phenotype.

Special Paper. Funding Priorities in Animal Reproduction at the United States Department of Agriculture’s Cooperative State Research, Education, and Extension Service
Mark A. Mirando and Debora L. Hamernik
The funding priorities for the U.S. Department of Agriculture in the area of reproductive biology, and the mechanism for setting them, are presented.

Expression of a Dominant Negative FGF Receptor in Developing GNRH1 Neurons Disrupts Axon Outgrowth and Targeting to the Median Eminence
John C. Gill and Pei-San Tsai
GNRH1 axonal connections to the median eminence are necessary for reproduction and are formed during development by both trophic and directional cues mediated by FGF receptors.

Smooth Muscle and Purinergic Contraction of the Human, Rabbit, Rat, and Mouse Testicular Capsule
Frederick C.L. Banks, Gillian E. Knight, Robert C. Calvert, Mark Turmaine, Cecil S. Thompson, Dimitri P. Mikhailidis, Robert J. Morgan, and Geoffrey Burnstock
Testicular capsule of rat, mouse, rabbit, and man contains smooth muscle and is contractile; that of the rabbit and man contract to ATP released as a cotransmitter, probably via P2X1 and/or P2X2 receptors.

Defective Reproductive Organ Morphology and Function in Domestic Rooster Embryonically Exposed to o,p'-DDT or Ethynylestradiol
A. Blomqvist, C. Berg, L. Holm, I. Brandt, Y. Ridderstråle, and B. Brunström
Embryonic exposure to the estrogenic pollutants o,p'-DDT or EE2 causes persistent alterations on testis and secondary sex characteristics in domestic rooster with a wider range of effects observed in the o,p'-DDT exposed birds.

Sperm Mobility: Deduction of a Model Explaining Phenotypic Variation in Roosters (Gallus domesticus)
D.P. Froman, J.C. Wardell, and A.J. Feltmann
A unifying model has been deduced for explaining variation in sperm mobility phenotype, a primary determinant of fertility in the domestic fowl.

Signaling Pathways for Modulation of Mouse Sperm Motility by Adenosine and Catecholamine Agonists
Sonya M. Schuh, Anne E. Carlson, G. Stanley McKnight, Marco Conti, Bertil Hille, and Donner F. Babcock
Analogs of adenosine and catecholamines activate sperm motility by a pathway that uses sperm adenylyl cyclase and cAMP-dependent protein kinase.

Expression and Glycosylation with Polylactosamine of CD44 Antigen on Macrophages During Follicular Atresia in Pig Ovaries
Yuko Miyake, Hiromichi Matsumoto, Masaki Yokoo, Kohtaro Miyazawa, Naoko Kimura, Woro Anindito Sri Tunjung, Takashi Shimizu, Hiroshi Sasada, Hisashi Aso, Takahiro Yamaguchi, and Eimei Sato
CD44s mRNA and posttranslational modifications promoted by polylactosamine in macrophages increased with progression of atresia in porcine follicles.

Immunocorticative Effects on Female Rabbits Infected with Recombinant Myxoma Virus Expressing Rabbit ZP2 or ZP3
The self-antigen rabbit zona pellucida protein 3 induced infertility in female rabbits when presented in the context of a recombinant myxoma virus.

Anchorage-Independent Growth of Mouse Male Germline Stem Cells In Vitro
Mito Kanatsu-Shinohara, Kimiko Inoue, Jiyoung Lee, Hiromi Miki, Narumi Ogunki, Shinya Toyokuni, Atsuo Ogura, and Takashi Shinohara
Male germline stem cells can undergo anchorage-independent self-renewal in a new suspension culture system.
Selection of Nonapoptotic Spermatozoa As a New Tool for Enhancing Assisted Reproduction Outcomes: An In Vitro Model

Tamer Said, Ashok Agarwal, Sonja Grunewald, Manja Rasch, Thomas Baumann, Christian Kriegel, Liang Li, Hans-Juergen Glander, Anthony J. Thomas Jr., and Uwe Paasch

The selection of nonapoptotic sperm using magnetic cell separation may be used to enhance sperm-oocyte penetration potential; however, this does not improve fertilization rates following intracytoplasmic sperm injection.

Placental Insufficiency Leads to Developmental Hypertension and Mesenteric Artery Dysfunction in Two Generations of Sprague-Dawley Rat Offspring

Cindy M. Anderson, Faye Lopez, Ashley Zimmer, and Joseph N. Benoit

Fetal exposure to placental insufficiency leads to altered vascular function and hypertension in two generations of offspring.

Clonal Amniotic Fluid-Derived Stem Cells Express Characteristics of Both Mesenchymal and Neural Stem Cells

Ming-Song Tsai, Shiaw-Min Hwang, Yieh-Loong Tsai, Fu-Chou Cheng, Jia-Ling Lee, and Yu-Jen Chang

Amniotic fluid will provide a promising source of neural progenitor cells that may be used in future cellular therapies for neurodegenerative diseases and nervous system injuries.

Indoleamine 2,3-Dioxygenase Participates in the Interferon-gamma-Induced Cell Death Process in Cultured Bovine Luteal Cells

Matthew J. Cannon and Joy L. Pate

Tryptophan catabolism by indoleamine 2,3-dioxygenase mediates IFNG-induced bovine luteal cell death.

Influence of TRP53 Status on FAS Membrane Localization, CFLAR (c-FLIP) Ubiquitinylation, and Sensitivity of GC-2spds (ts) Cells to Undergo FAS-Mediated Apoptosis

Yamini Chandrasekaran, Chad M. Mckee, Yang Ye, and John H. Richburg

The TRP53 protein promotes FAS-activated germ cell apoptosis by instigating the degradation of CFLAR (L) (c-FLIP [L]) protein via its ubiquitinylation.

Sphingosine-1-Phosphate Receptor Expression and Signaling Correlate with Uterine Prostaglandin-Endoperoxide Synthase 2 Expression and Angiogenesis During Early Pregnancy

Malgorzata E. Skaznik-Wikiel, Tomoko Kaneko-Tarui, Aki Kashiwagi, and James K. Pru

Localization of S1P receptors at the maternal:embryonic interface suggests a role in uterine angiogenesis and prostanoid synthesis.

Bovine NALP5, NALP8, and NALP9 Genes: Assignment to a QTL Region and the Expression in Adult Tissues, Oocytes, and Preimplantation Embryos

Siriluck Ponsuksili, Ronald M. Brunner, Tom Goldammer, Christa Kühn, Christina Walz, Siriwadee Chomdej, Dawit Tesfaye, Karl Schellander, Klaus Wimmers, and Manfred Schwerin

Mapping of bovine NALP genes to a QTL region for reproductive traits and the preferential expression of these genes in reproductive tissues suggests their functional relevance to reproduction and phenotypic variation.

Stress Stimulates AMP-Activated Protein Kinase and Meiotic Resumption in Mouse Oocytes

Cean LaRosa and Stephen M. Downs

Exposure of meiotically arrested mouse oocytes to three different stresses stimulates AMP-activated protein kinase and germinal vesicle breakdown.

Study of Germinal Vesicle Requirement for the Normal Kinetics of Maturation/M-Phase-Promoting Factor Activity During Porcine Oocyte Maturation

Koji Sugiura, Kunihiko Naito, Tsutomu Endo, and Hideaki Tojo

Germainal vesicle material induces the reactivation of maturation/M-phase promoting factor (MPF) by promoting CCNB1 (cyclin B1) accumulation in porcine oocyte during the second meiosis.

Gene Expression of Cox5a, 5b, or 6b1 and Their Roles in Preimplantation Mouse Embryos

Xiang-Shun Cui, Xing-Yu Li, Yu-Jeong Jeong, Jin-Hyun Jun, and Nam-Hyung Kim

Gene expression of the Cox subunits, Cox 5a, 5b, or 6b1, is not required for embryo developmental events up to the blastocyst stage.

Retractions

Ad Hoc Reviewers
### Contents by Category

#### Embryo

- **538** Placental Insufficiency Leads to Developmental Hypertension and Mesenteric Artery Dysfunction in Two Generations of Sprague-Dawley Rat Offspring. *Cindy M. Anderson, Faye Lopez, Ashley Zimmer, and Joseph N. Benoit*
- **601** Gene Expression of Cox5a, 5b, or 6b1 and Their Roles in Preimplantation Mouse Embryos. *Xiang-Shun Cui, Xing-Yu Li, Yu-Jeong Jeong, Jin-Hyun Jun, and Nam-Hyun Kim*

#### Game Biology

- **487** Sperm Mobility: Deduction of a Model Explaining Phenotypic Variation in Roosters (*Gallus domesticus*). *D.P. Froman, J.C. Wardell, and A.J. Feltmann*
- **492** Signaling Pathways for Modulation of Mouse Sperm Motility by Adenosine and Catecholamine Agonists. *Sonia M. Schuh, Anne E. Carlson, G. Stanley McKnight, Marco Conti, Bertil Hille, and Donner F. Babcock*
- **585** Stress Stimulates AMP-Activated Protein Kinase and Meiotic Resumption in Mouse Oocytes. *Cean LaRosa and Stephen M. Downs*
- **593** Study of Germinal Vesicle Requirement for the Normal Kinetics of Maturation/M-Phase-Promoting Factor Activity During Porcine Oocyte Maturation. *Koji Sugiura, Kunihiko Naito, Tsutomu Endo, and Hideaki Tojo*

#### Immunology

- **511** Immunocontrceptive Effects on Female Rabbits Infected with Recombinant Myxoma Virus Expressing Rabbit ZP2 or ZP3. *S.M. Mackenzie, E.A. McLaughlin, H.D. Perkins, N. French, T. Sutherland, R.J. Jackson, B. Inglis, W.J. Müller, B.H. van Leeuwen, A.J. Robinson, and P.J. Kerr*

#### Male Reproductive Tract

- **473** Smooth Muscle and Purinergic Contraction of the Human, Rabbit, Rat, and Mouse Testicular Capsule. *Frederick C.L. Banks, Gillian E. Knight, Robert C. Calvert, Mark Turmaine, Cecil S. Thompson, Dimitri P. Mikhailidis, Robert J. Morgan, and Geoffrey Burnstock*

#### Minireview

- **450** Contribution of Germ Cells to the Differentiation and Maturation of the Ovary: Insights from Models of Germ Cell Depletion. *Celine J. Guigon and Solange Magre*

#### Neuroendocrinology

- **463** Expression of a Dominant Negative FGF Receptor in Developing GnRH1 Neurons Disrupts Axon Outgrowth and Targeting to the Median Eminence. *John C. Gill and Pei-San Tsai*

#### Ovary

- **501** Expression and Glycosylation with Polylactosamine of CD44 Antigen on Macrophages During Follicular Atresia in Pig Ovaries. *Yuko Miyake, Hiromichi Matsumoto, Masaki Yokoo, Kohtarou Miyazawa, Naoko Kimura, Woro Anindito Sri Tunjung, Takashi Shimizu, Hiroshi Sasada, Hisashi Aso, Takahiro Yamaguchi, and Eimei Sato*
- **522** Anchorage-Independent Growth of Mouse Male Germline Stem Cells In Vitro. *Mito Kanatsu-Shinohara, Kimiko Inoue, Jiyoung Lee, Hiromi Miki, Narumi Ogonuki, Shinya Toyokuni, Atsuo Ogura, and Takashi Shinohara*

#### Special Paper

- **459** Funding Priorities in Animal Reproduction at the United States Department of Agriculture’s Cooperative State Research, Education, and Extension Service. *Mark A. Miranda, and Debora L. Hamernik*

#### Testis

- **560** Influence of TRP63 Status on FAS Membrane Localization, CFLAR (c-FLIP) Ubiquitinylation, and Sensitivity of GC-2spd (ts) Cells to Undergo FAS-Mediated Apoptosis. *Yamini Chandrasekaran, Chad M. McKee, Yang Ye, and John H. Richburg*

#### Toxicology

- **481** Defective Reproductive Organ Morphology and Function in Domestic Rooster Embryonically Exposed to o,p'-DDT or Ethynylestradiol. *A. Blomqvist, C. Berg, L. Holm, I. Brandt, Y. Ridderstråle, and B. Brunström*