

BIOLOGY *of* REPRODUCTION

Official Journal of the Society for
the Study of Reproduction

APRIL 2006

VOLUME 74 NUMBER 4

Biology of Reproduction Highlights	615
The Seminiferous Epithelium Cycle Length in the Black Tufted-Ear Marmoset (<i>Callithrix penicillata</i>) Is Similar to Humans	616
<i>Marcelo C. Leal and Luiz R. França</i> The black tufted-ear marmoset <i>C. penicillata</i> might represent an alternative and useful experimental model to perform comparative studies related to the expansion of spermatogonial stem cells and the establishment of spermatogenic waves.	
Channel-Dependent Permeation of Water and Glycerol in Mouse Morulae	625
<i>Keisuke Edashige, Mitsunobu Tanaka, Natsuko Ichimaru, Satoshi Ota, Ken-ichi Yazawa, Yuki Higashino, Megumi Sakamoto, Yohei Yamaji, Tatsunaga Kuwano, Delgado M. Valdez Jr., F.W. Kleinhans, and Magosaburo Kasai</i> Water and glycerol movement relies on aquaporin 3 in mouse morulae aquaporin 3, developmental biology, embryo, glycerol permeability, mouse, ovum, water permeability.	
The Mouse <i>t</i> Complex Gene <i>Tsga2</i>, Encoding Polypeptides Located in the Sperm Tail and Anterior Acrosome, Maps to a Locus Associated with Sperm Motility and Sperm-Egg Interaction Abnormalities	633
<i>Ling Hui, Jing Lu, Yibing Han, and Stephen H. Pilder</i> Testis-specific gene A2 (<i>Tsga2</i>) maps to the mouse <i>t</i> complex in a locus containing abnormal sperm motility and sperm-egg interaction factors, and expresses proteins found in epididymal sperm tails and heads.	
<i>UTP14c</i> Is a Recently Acquired Retrogene Associated with Spermatogenesis and Fertility in Man	644
<i>Jan Rohozinski, Dolores J. Lamb, and Colin E. Bishop</i> Mutations within <i>UTP14c</i> , a testis-specific retrogene originating from the X chromosome, are associated with male infertility.	
The Effects of Deletions of the Mouse Y Chromosome Long Arm on Sperm Function—Intracytoplasmic Sperm Injection (ICSI)-Based Analysis	652
<i>Monika A. Ward and Paul S. Burgoyne</i> ICSI was successfully used to reproduce infertile mice with Yq deletions, and the analysis of sperm function in obtained offspring demonstrated that gene families located within the deletion interval are necessary for normal sperm function.	
Oleoylethanolamide Protects Human Sperm Cells from Oxidation Stress: Studies on Cases of Idiopathic Infertility	659
<i>Annarina Ambrosini, Giovanna Zolese, Simona Ambrosi, Letizia Ragni, Luca Tiano, Gianpaolo Littarru, Enrico Bertoli, Franco Mantero, Marco Boscaro, and Giancarlo Balercia</i> Oleoylethanolamide, a physiologically present acylethanolamide in human reproductive tracts and fluids, improves sperm kinematic parameters and hyperactivation and protects cells from oxidative damage in some cases of idiopathic infertility.	
Sperm from Mice Genetically Deficient for the PCSK4 Proteinase Exhibit Accelerated Capacitation, Precocious Acrosome Reaction, Reduced Binding to Egg Zona Pellucida, and Impaired Fertilizing Ability	666
<i>Charles Gyamera-Acheampong, Julierut Tantibhedhyangkul, Wattana Weerachayanukul, Haidy Tadros, Hongbin Xu, Jan-W. van de Loo, R.-Marc Pelletier, Nongnuj Tanphaichitr, and Majambu Mbikay</i> Mouse PCSK4 is found on the plasma membrane overlying the acrosome and its absence makes sperm more sensitive to capacitation and acrosome reaction, suggesting a role of this enzyme in sperm acquisition of fertilizing ability.	
Nerve Growth Factor Translates Stress Response and Subsequent Murine Abortion via Adhesion Molecule-Dependent Pathways	674
<i>Mareike Tometten, Sandra Blois, Arne Kuhlmei, Anna Stretz, Burghard F. Klapp, and Petra C. Arck</i> Neutralization of nerve growth factor abrogates uterine stress responses, including downregulation of adhesion molecules and their ligands, bias of decidual cytokines towards a protective Th21>Th11 profile and decrease of the abortion rate.	
The Molecular Motor KIFC1 Associates with a Complex Containing Nucleoporin NUP62 That Is Regulated During Development and by the Small GTPase RAN	684
<i>Wan-Xi Yang, Holly Jefferson, and Ann O. Sperry</i> The molecular motor KIFC1 associates with a complex containing nucleoporin NUP62 that is regulated during development and by the small GTPase RAN.	

Effects of Enucleation and Caffeine on Maturation-Promoting Factor (MPF) and Mitogen-Activated Protein Kinase (MAPK) Activities in Ovine Oocytes Used as Recipient Cytoplasts for Nuclear Transfer	691
<i>Joon-Hee Lee and Keith H.S. Campbell</i>	
Treatment of enucleated ovine oocytes with caffeine increases MPF and MAPK kinases activities and improves total cell number in blastocyst stage embryos reconstructed by somatic cell nuclear transfer.	
Regulation of the MAFF Transcription Factor by Proinflammatory Cytokines in Myometrial Cells	699
<i>Wael Massrieh, Anna Derjuga, Florence Doualla-Bell, Chun-Ying Ku, Barbara M. Sanborn, and Volker Blank</i>	
The MAFF transcription factor is specifically regulated by the proinflammatory cytokines IL1B and TNF in human myometrial cells.	
Meiosis in Autologous Ectopic Transplants of Immature Testicular Tissue Grafted to <i>Callithrix jacchus</i>.	706
<i>Joachim Wistuba, C. Marc Luetjens, Ramona Wesselmann, Eberhard Nieschlag, Manuela Simoni, and Stefan Schlatt</i>	
Autologous transplantation is suitable for maintaining immature testicular tissue and for inducing spermatogenesis during puberty up to meiosis in the nonhuman primate model <i>Callithrix jacchus</i> .	
Putative Regulation of Expression of Members of the Ets Variant 4 Transcription Factor Family and Their Downstream Targets in the Rat Epididymis	714
<i>Ling Yang, Sallie A. Fox, Jennifer L. Kirby, Brigid V. Troan, and Barry T. Hinton</i>	
The ETV4 family of transcription factors, which is regulated by testicular luminal fluid factors, controls the expression of initial segment-specific genes that are important for the protection and survival of sperm and the epididymis.	
WNT Pathways in the Neonatal Ovine Uterus: Potential Specification of Endometrial Gland Morphogenesis by SFRP2	721
<i>Kanako Hayashi and Thomas E. Spencer</i>	
Evidence is presented for the involvement of canonical and noncanonical WNT pathways regulating postnatal uterine differentiation and SFRP2 in specifying endometrial gland development by inhibiting WNT signaling in the aglandular caruncular areas.	
The First Mitosis of the Mouse Embryo Is Prolonged by Transitional Metaphase Arrest	734
<i>Marta Sikora-Polaczek, Anna Hupalowska, Zbigniew Polanski, Jacek Z. Kubiak, and Maria A. Ciemerych</i>	
A spindle assembly checkpoint is not involved in the prolongation of first mitosis of mouse embryo.	
Expression and Relationship of Male Reproductive ADAMs in Mouse	744
<i>Taewan Kim, Jungsu Oh, Jong-Min Woo, Eunyoung Choi, Sin Hyeog Im, Yung Joon Yoo, Do Han Kim, Hitoshi Nishimura, and Chunghee Cho</i>	
Sperm surface ADAMs 5 and 7 are related to ADAMs 2 and 3 with critical roles in fertilization.	
Deficiency of SPAG16L Causes Male Infertility Associated with Impaired Sperm Motility	751
<i>Zhibing Zhang, Igor Kostetskii, Waixing Tang, Lisa Haig-Ladewig, Rossana Sapiro, Zhangyong Wei, Aatish M. Patel, Jean Bennett, George L. Gerton, Stuart B. Moss, Glenn L. Radice, and Jerome F. Strauss III</i>	
The protein, sperm associated antigen 16L (SPAG16L), which is localized in the central apparatus of flagella, is required for sperm motility and male fertility.	
Biological Effects of Recombinant Human Zona Pellucida Proteins on Sperm Function	760
<i>Pedro Caballero-Campo, Mayel Chirinos, Xue J. Fan, María E. González-González, Myrna Galicia-Chavarría, Fernando Larrea, and George L. Gerton</i>	
Zona glycoproteins promote acrosomal exocytosis and are also modifiers of sperm motility.	
Additions and Corrections	769
Announcements	

Contents by Category

Embryo

- 734 The First Mitosis of the Mouse Embryo Is Prolonged by Transitional Metaphase Arrest. *Marta Sikora-Polaczek, Anna Hupalowska, Zbigniew Polanski, Jacek Z. Kubiak, and Maria A. Ciemerych*

Female Reproductive Tract

- 699 Regulation of the MAFF Transcription Factor by Proinflammatory Cytokines in Myometrial Cells. *Wael Massrieh, Anna Derjuga, Florence Doualla-Bell, Chun-Ying Ku, Barbara M. Sanborn, and Volker Blank*
- 721 WNT Pathways in the Neonatal Ovine Uterus: Potential Specification of Endometrial Gland Morphogenesis by SFRP2. *Kanako Hayashi and Thomas E. Spencer*

Gamete Biology

- 633 The Mouse *t* Complex Gene *Tsga2*, Encoding Polypeptides Located in the Sperm Tail and Anterior Acrosome, Maps to a Locus Associated with Sperm Motility and Sperm-Egg Interaction Abnormalities. *Ling Hui, Jing Lu, Yibing Han, and Stephen H. Pilder*
- 666 Sperm from Mice Genetically Deficient for the PCSK4 Proteinase Exhibit Accelerated Capacitation, Precocious Acrosome Reaction, Reduced Binding to Egg Zona Pellucida, and Impaired Fertilizing Ability. *Charles Gyamera-Acheampong, Julierut Tantibhedhyangkul, Wattana Weerachatanukul, Haidy Tadros, Hongbin Xu, Jan-W. van de Loo, R.-Marc Pelletier, Nongnuj Tanphaichitr, and Majambu Mbikay*
- 744 Expression and Relationship of Male Reproductive ADAMs in Mouse. *Taewan Kim, Jungsu Oh, Jong-Min Woo, Eunyoung Choi, Sin Hyeog Im, Yung Joon Yoo, Do Han Kim, Hitoshi Nishimura, and Chunghee Cho*
- 751 Deficiency of SPAG16L Causes Male Infertility Associated with Impaired Sperm Motility. *Zhibing Zhang, Igor Kostetskii, Waixing Tang, Lisa Haig-Ladewig, Rossana Sapiro, Zhangyong Wei, Aatish M. Patel, Jean Bennett, George L. Gerton, Stuart B. Moss, Glenn L. Radice, and Jerome F. Strauss III*
- 760 Biological Effects of Recombinant Human Zona Pellucida Proteins on Sperm Function. *Pedro Caballero-Campo, Mayel Chirinos, Xue J. Fan, María E. González-González, Myrna Galicia-Chavarría, Fernando Larrea, and George L. Gerton*

Immunology

- 674 Nerve Growth Factor Translates Stress Response and Subsequent Murine Abortion via Adhesion Molecule-Dependent Pathways.

Mareike Tometten, Sandra Blois, Arne Kuhlmei, Anna Stretz, Burghard F. Klapp, and Petra C. Arck

Male Reproductive Tract

- 659 Oleoylethanolamide Protects Human Sperm Cells from Oxidation Stress: Studies on Cases of Idiopathic Infertility. *Annarina Ambrosini, Giovanna Zolese, Simona Ambrosi, Letizia Ragni, Luca Tiano, Gianpaolo Littarru, Enrico Bertoli, Franco Mantero, Marco Boscaro, and Giancarlo Balercia*
- 714 Putative Regulation of Expression of Members of the Ets Variant 4 Transcription Factor Family and Their Downstream Targets in the Rat Epididymis. *Ling Yang, Sallie A. Fox, Jennifer L. Kirby, Brigid V. Troan, and Barry T. Hinton*

Reproductive Technology

- 625 Channel-Dependent Permeation of Water and Glycerol in Mouse Morulae. *Keisuke Edashige, Mitsunobu Tanaka, Natsuko Ichimaru, Satoshi Ota, Ken-ichi Yazawa, Yuki Higashino, Megumi Sakamoto, Yohei Yamaji, Tatsunaga Kuwano, Delgado M. Valdez Jr., F.W. Kleinhans, and Magosaburo Kasai*
- 652 The Effects of Deletions of the Mouse Y Chromosome Long Arm on Sperm Function—Intracytoplasmic Sperm Injection (ICSI)-Based Analysis. *Monika A. Ward and Paul S. Burgoyne*
- 691 Effects of Enucleation and Caffeine on Maturation-Promoting Factor (MPF) and Mitogen-Activated Protein Kinase (MAPK) Activities in Ovine Oocytes Used as Recipient Cytoplasts for Nuclear Transfer. *Joon-Hee Lee and Keith H.S. Campbell*

Testis

- 616 The Seminiferous Epithelium Cycle Length in the Black Tufted-Ear Marmoset (*Callithrix penicillata*) Is Similar to Humans. *Marcelo C. Leal and Luiz R. França*
- 644 *UTP14c* Is a Recently Acquired Retrogene Associated with Spermatogenesis and Fertility in Man. *Jan Rohozinski, Dolores J. Lamb, and Colin E. Bishop*
- 684 The Molecular Motor KIFC1 Associates with a Complex Containing Nucleoporin NUP62 That Is Regulated During Development and by the Small GTPase RAN. *Wan-Xi Yang, Holly Jefferson, and Ann O. Sperry*
- 706 Meiosis in Autologous Ectopic Transplants of Immature Testicular Tissue Grafted to *Callithrix jacchus*. *Joachim Wistuba, C. Marc Luetjens, Ramona Wesselmann, Eberhard Nieschlag, Manuela Simoni, and Stefan Schlatt*