

JRD Vol. 71 (2) の発刊のお知らせ
SRD 会員の皆様へ

平素から The Journal of Reproduction and Development (JRD) の刊行にご協力を頂き有難うございます。Vol. 71 (2) が発刊となりました。ご一読いただき、また論文執筆の際にはご活用いただけますようお願いいたします。

本号では, LÓPEZ-GATIUS 先生に Opinions and Hypotheses 「Can thermoregulatory response to heat stress be improved in lactating dairy cows? Insights from counter-current heat transfer systems impacting reproduction」を寄稿していただきました。お読みいただけましたら幸いです。

JRD 編集委員長 原山 洋

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https://www.jstage.jst.go.jp/browse/jrd/71/2/_contents/-char/en

Opinions and Hypotheses

Can thermoregulatory response to heat stress be improved in lactating dairy cows? Insights from counter-current heat transfer systems impacting reproduction

Fernando LÓPEZ-GATIUS

Volume 71, Issue 2, Pages 68-70

DOI <https://doi.org/10.1262/jrd.2024-101>

Original Article

Involvement of nuclear receptor corepressor 2 (NCOR2) in estrogen-induced repression of arcuate *Kiss1* expression in female rats

Marina TAKIZAWA, Sae MIYAZAKI, Hitomi TSUCHIDA, Mayuko NAGAE, Shunsuke SEKI, Masumi HIRABAYASHI, Fumitaka OSAKADA, Naoko INOUE, Hiroko TSUKAMURA, Yoshihisa UENOYAMA

Volume 71, Issue 2, Pages 71-84

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Cover Story:

The kisspeptin neurons in the arcuate nucleus (ARC) are the site of estrogen-negative feedback of kisspeptin gene (*Kiss1*) expression in female mammals. Takizawa *et al.* investigated whether nuclear receptor corepressor 2 (NCOR2), an estrogen receptor α corepressor, is involved in estrogen-induced *Kiss1* repression using two rat models: proestrous virgin and late-lactating model rats (Takizawa *et al.*; Involvement of nuclear receptor corepressor 2 (NCOR2) in estrogen-induced repression of arcuate *Kiss1* expression in female rats. pp. 71–84). *Ncor2* (magenta) was expressed in more than 80% of ARC *Kiss1*-expressing cells (green) in female rats, as shown in the cover photograph. Kisspeptin-neuron-specific *Ncor2* knockdown increased the number of *Kiss1*-expressing cells and the intensity of the *Kiss1* signals in the ARC in the proestrous model *Kiss1*-Cre rats but not in the late-lactating *Kiss1*-Cre rats. These findings suggest that NCOR2 in ARC kisspeptin neurons mediates the proestrous levels of estrogen-induced

repression of ARC *Kiss1* expression in virgin rats.

Influences of 5-hydroxytryptamine on sperm hyperactivation and *in vitro* fertility in rats

Yuki KOYANO, Masakatsu FUJINOKI

Volume 71, Issue 2, Pages 85-92

DOI <https://doi.org/10.1262/jrd.2024-078>

Factors influencing *in vivo* embryo production in Japanese Black donors: The role of anti-Müllerian hormone and inflammation parameters

Hiroaki OKAWA, Norihiro YUKIYAMA, Osamu YAMATO, Akira GOTO, Oky Setyo WIDODO, Yasuo FUSHIMI, Mitsuhiro TAKAGI

Volume 71, Issue 2, Pages 93-98

DOI <https://doi.org/10.1262/jrd.2024-092>

Improving porcine *in vitro* blastocyst development using fetal bovine serum, amino acids, and insulin-transferrin-selenium

Ba Anh My LE, Lien Boi Linh NGUYEN, Chi Thien LAM, Nhat-Thinh NGUYEN, Ngoc Thao Vy NGUYEN, Van Thuan NGUYEN, Hong-Thuy BUI

Volume 71, Issue 2, Pages 99-109

DOI <https://doi.org/10.1262/jrd.2024-095>

Technology Report

Suppression of porcine polyspermy using mechanical vibrations during *in vitro* fertilization

Takehiro HIMAKI, Kohei SHINADA, Asumi YAEGASHI

Volume 71, Issue 2, Pages 110-114

DOI <https://doi.org/10.1262/jrd.2024-042>

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SRD Young Investigator Award 2024; Invited review article

Optimization of ovum pick-up-*in vitro* fertilization and *in vitro* growth of immature oocytes in ruminants

Kenichiro SAKAGUCHI

Volume 71, Issue 1, Pages 1-9

DOI <https://doi.org/10.1262/jrd.2024-091>

Invited review article

Can Humanity Thrive Beyond the Galaxy?

Sayaka WAKAYAMA, Teruhiko WAKAYAMA

Volume 71, Issue 1, Pages 10-16

DOI <https://doi.org/10.1262/jrd.2024-099>

Cover Story:

The expansion of humanity into space is inevitable. However, human reproduction within space habitats or on extraterrestrial planets poses profound challenges including harmful mutations caused by cosmic radiation and abnormal development of embryos and fetuses in non-terrestrial gravitational environments. Moreover, colonizing other star systems necessitates the transportation of thousands of individuals from each animal species to the target planet to prevent inbreeding-related degeneration. Looking further ahead, as humans disperse throughout the galaxy, the imperative to preserve all genetic resources from Earth permanently and securely becomes paramount. This review examines the issues that must be addressed to ensure human prosperity in space, as well as the challenges that need to be resolved for the transport and long-term preservation of vast genetic resources.

Original Article

Comparison of vaginal examination methods to evaluate urovagina and purulent vaginal discharge in periostrous dairy cows

Dai ISHIYAMA, Fumie MAGATA, Fuko MATSUDA

Volume 71, Issue 1, Pages 17-23

DOI <https://doi.org/10.1262/jrd.2924-071>

Semen extender triggers a mild physiological inflammatory response in the uterus without disrupting sperm-uterine immune crosstalk *in vitro* in cattle

Malinda HULUGALLA, Alireza MANSOURI, Elham WAEHAMA, Ihshan AKTHAR, Akio MIYAMOTO

Volume 71, Issue 1, Pages 24-34

DOI <https://doi.org/10.1262/jrd.2024-093>

Spermatic RXFP2 expression levels and seminal INSL3 concentrations among beef bull ejaculates with different levels of sperm morphological normality

Hewage Dilhan Anuradha WIMALARATHNE, Kenta ARASHI, Fumiyuki IWAKI, Mitsuhiro SAKASE, DURITAHALA, Hiroshi HARAYAMA, Noritoshi KAWATE

Volume 71, Issue 1, Pages 35-40

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The imprinted *Igf2-Igf2r* axis is critical for exosome biogenesis during the early development of bovine placenta
Kunhua ZHENG, Longfei XIAO, Naihan YUAN, Xihui SHENG, Xiaolong QI, Yingqiu WANG, Chang CHEN, Kaijun GUO, Lin YANG, Bingying LIU, Xiangguo WANG

Volume 71, Issue 1, Pages 41-48

DOI <https://doi.org/10.1262/jrd.2024-081>

Chloroquine inhibits artificial oocyte activation induced by ethanol or Sr^{2+} but not by sperm in mice

Tadashi YAMAZAKI, Md Wasim BARI, Satoshi KISHIGAMI

Volume 71, Issue 1, Pages 49-54

DOI <https://doi.org/10.1262/jrd.2024-089>

Supplementation with serine-enriched non-essential amino acids from minimum essential medium promotes blastocyst development of *in vitro*-fertilized bovine embryos

Nobuhiko ITAMI, Yuji HIRAO

Volume 71, Issue 1, Pages 55-61

DOI <https://doi.org/10.1262/jrd.2024-090>

Technology Report

Artificial insemination of bottlenose dolphins (*Tursiops truncatus*): A trial with simple instruments based on criteria for estrous behaviors linked to changes in estradiol levels and follicle development

Shusaku SAWA, Narumi KAWAHIRO, Minami W. OKUYAMA

Volume 71, Issue 1, Pages 62-67

DOI <https://doi.org/10.1262/jrd.2024-065>