

Instructions for Contributors

Zygote is an international journal dedicated to the rapid publication of original research in early embryology. It covers interdisciplinary studies on gametogenesis through fertilization to gastrulation in animals and humans. The scope has been expanded to include clinical papers, molecular and developmental genetics. While the editors will favour work describing fundamental processes in the cellular and molecular mechanisms of animal development, and, in particular, the identification of unifying principles in biology, new technologies, review articles, debates and letters will become a prominent feature.

Subjects covered include gametogenesis, sperm–oocyte interaction, gamete and embryo physiology, cell polarity, cell–cell interactions, nuclear transfer, haploidization, molecular and developmental genetics, in-vitro fertilization, stem cell and cryoconservation technologies.

To submit a manuscript, please email a complete copy, including figures and illustrations to:

- Brian Dale, Editor-in-Chief, *Zygote*, Centre for Reproductive Biology, Italy.
Email: brian.dale@virgilio.it or to
- Jacques Cohen, North American Editor, *Zygote*, Tyho-Galileo Research Laboratories, 3 Regent Street, Suite 301, Livingston, NJ 07039, USA
Email: jc@embryos.net or to
- Professor Norio Suzuki, Asian Pacific Editor, *Zygote*, Department of Biological Science, Hokkaido University, Japan.
Email: medaka-s@kdp.biglobe.ne.jp

Submission of a paper will be taken to imply that it is unpublished and it is not being considered for publication elsewhere. Authors of articles published in the journal assign copyright to Cambridge University Press (with certain rights reserved) and you will receive a copyright assignment form for signature on acceptance of your paper.

There is no formal restriction on length; however, original articles and reviews of less than 15000 words are likely to appear sooner than longer ones. Short communications should not exceed 1500 words and News and Views Commentaries 500 words.

Preparation of manuscripts

Manuscripts should be organised as follows: Title page (with full names and addresses of all authors, a running headline of up to 35 characters, and a contact address with telephone number and email address), an Abstract of not more than

250 words followed by 5 Keywords, Introduction, Materials and Methods, Results, Discussion (combined Results and Discussion may be used for short papers), Acknowledgements, References, Endnotes, Tables and Figure Legends.

Manuscripts should be prepared using SI units

Figures

Figures should be numbered consecutively as they appear in the text. Any indication of features of special interest should also be included. Figures must be supplied electronically. They must be saved at final publication size and ideally supplied in the following file formats: halftone figures (black & white, and colour) as TIF files at 300 dpi; black & white line figures as TIF or EPS files at 1000 – 1200 dpi. PDF format is also accepted. When relevant, photographs should be submitted with proposed reduction or magnification indicated by a scale line on or beside, the illustration.

The places for insertion into the text should be indicated in the text as 'Fig. 1' etc. Legends for all illustrations should be typed together, separately from the main text. A charge of £500 per figure will be made for colour reproduction and printing.

More detailed information is available at:

<http://journals.cambridge.org/artworkguide>

Tables

Tables with concise headings should be placed at the end of the paper. Each table must have a text reference, in the form 'Table 1' etc.

References

References should be cited in the text as Conklin (1905) showed or as shown (Conklin, 1905). For papers with three or more authors use et al. A full list of references in alphabetical order should be given at the end of the text: surname of author and initials; year of publication (in parentheses); title of paper; journal or book name (the former being abbreviated in accordance with the World List of Scientific Periodicals); volume number; first and last page of the reference. For books and conference proceedings, place of publication and publisher (and editor(s) if appropriate) should be included.

Proofs

Proofs will be sent to the author for checking. Typographical or factual errors only may be changed at proof stage. The publisher reserves the right to charge authors for correction of non-typographical errors.

Offprints

A PDF offprint of each article will be supplied free to each first named author. Paper offprints may be purchased from the publisher if ordered at proof stage.

CAMBRIDGE UNIVERSITY PRESS

The Edinburgh Building, Cambridge CB2 8RU, United Kingdom

32 Avenue of the Americas, New York, NY 10013–2473, USA

477 Williamstown Road, Port Melbourne, VIC 3207, Australia

C/Orense, 4, planta 13, 28020 Madrid, Spain

Lower Ground Floor, Nautica Building, The Water Club, Beach Road, Granger Bay, 8005 Cape Town, South Africa

Printed in the UK by Bell and Bain Ltd, Glasgow

This journal issue has been printed on FSC-certified paper and cover board. FSC is an independent, non-governmental, not-for-profit organization established to promote the responsible management of the world's forests. Please see www.fsc.org for information.

ZYGOTE

The Biology of Gametes and Early Embryos

CONTENTS

ORIGINAL ARTICLES

Effect of estradiol during culture of bovine oocyte–granulosa cell complexes on the mitochondrial DNA copies of oocytes and telomere length of granulosa cells

Endo, M., Kimura, K., Kuwayama, T., Monji, Y. & Iwata, H. 431

Involvement of PLA2, COX and LOX in *Rhinella arenarum* oocyte maturation

Ortiz, M. E., Bühler, M. I. & Zelarayán, L. I. 440

Digital holographic microscopy for the evaluation of human sperm structure

Coppola, G., Caprio, G. D., Wilding, M., Ferraro, P., Esposito, G., Di Matteo, L., Dale, R., Coppola, G. & Dale, B. 446

Differential expression of microRNAs in 2-cell and 4-cell mouse embryos

Wang, P., Cui, J., Zhao, C., Zhou, L., Guo, X., Shen, R., Zhang, J. & Ling, X. 455

Distribution pattern and activity of mitochondria during oocyte growth and maturation in the ascidian *Styela plicata*

Bezzaouia, A., Gallo, A., Silvestre, F., Tekaya, S. & Tosti, E. 462

Morphometric of blastomeres in *Salmo salar*

Effer, B. R., Sánchez, R. R., Ubilla, A. M., Figueroa, E. V. & Valdebenito, I. I. 470

Microtubule assembly and *in vitro* development of bovine oocytes with increased intracellular glutathione level prior to vitrification and *in vitro* fertilization

Hara, H., Yamane, I., Noto, I., Kagawa, N., Kuwayama, M., Hirabayashi, M. & Hochi, S. 476

Identification of phospholipase activity in *Rhinella arenarum* sperm extract capable of inducing oocyte activation

Bonilla, F., Minahk, C., Ajmat, M. T., Toranzo, G. S. & Bühler, M. I. 483

Exposing bovine cumulus–oocyte complexes to aromatizable androgen restore serum-induced low estradiol production *in vitro*

Bernuci, M. P., Bulgareli, D. L., Vireque, A. A., Pitanguí, C. P., de Sa, M. F. S. & Rosa-e-Silva, A. C. J. S. 496

Selection of developmentally competent immature equine oocytes with brilliant cresyl blue stain prior to *in vitro* maturation with equine growth hormone

Pereira, G. R., Lorenzo, P. L., Carneiro, G. F., Bilodeau-Goeseels, S., Kastelic, J. P., Esteller-Vico, A., Lopez-Bejar, M. & Liu, I. K.M. 500

Stability of reference genes for normalization of reverse transcription quantitative real-time PCR (RT-qPCR) data in bovine blastocysts produced by IVF, ICSI and SCNT

Luchsinger, C., Arias, M. E., Vargas, T., Paredes, M., Sánchez, R. & Felmer, R. 505

Role of *Mael* in early oogenesis and during germ-cell differentiation from embryonic stem cells in mice *in vitro*

Bahena, I., Xu, E., Betancourt, M., Casas, E., Ducolomb, Y., González, C. & Bonilla, E. 513

Expression levels of mRNA for insulin-like growth factors 1 and 2, IGF receptors and IGF binding proteins in *in vivo* and *in vitro* grown bovine follicles

Rebouças, E. L., Costa, J. J. N., Passos, M. J., Silva, A. W. B., Rossi, R. O. D. S., Hurk, van den Hunk, R. & Silva, J. R. V. 521

Morphophysiological characterization of the embryonic development of *Melanotaenia praecox* (Weber & de Beaufort, 1922)

Radael, M. C., Cardoso, L. D., Andrade, D. R., Mattos, D., Motta, J. H., Manhães, J. V. & Vidal Jr, M. V. 533

The development and expression of pluripotency genes in embryos derived from nuclear transfer and *in vitro* fertilization

Ma, L.-B., He, X.-Y., Wang, F.-M., Cao, J.-W. & Cheng, T. 540

Moments of induced spawning and embryonic development of *Brycon amazonicus* (Teleostei, Characidae)

Nakaghi, L. S. O., Neumann, E., Faustino, F., Mendes, J. M. R. & de Braga, F. M. 549

Ultrastructure of vitrified rabbit transgenic embryos

Chrenek, P., Makarevich, A. V., Popelková, M., Schlarmanová, J., Toporcerová, S., Ostró, A., Živčák, J. & Bosze, Zs. 558

Traditional intracytoplasmic sperm injection provides equivalent outcomes compared with human zona pellucida-bound selected sperm injection

Casciani, V., Minasi, M. G., Fabozzi, G., Scarselli, F., Colasante, A., Lobascio, A. M. & Greco, E. 565