Vol. 2.2 May 1994

Zygote

The Biology of Gametes and Early Embryos



CAMBRIDGE UNIVERSITY PRESS

Zygote

The Biology of Gametes and Early Embryos

Zygote aims to identify basic mechanisms that establish the architecture of the early embryo and will cover all aspects of early development from gametogenesis to gastrulation. Studies on plants, invertebrates, lower vertebrates, mammals and humans at the molecular and cellular levels will be accepted, leading to a unique multidisciplinary publication.

Editor-in-Chief

Brian Dale

Department of Cell and Developmental Biology, Stazione Zoologica 'Anton Dohrn', Villa Comunale 1, 80121 Naples, Italy

Editorial assistant: Dr Valeria Tosti, Stazione Zoologica 'Anton Dohrn', Italy

North American editor

William Jeffery

Bodega Marine Laboratory, University of California, Davis, PO Box 247, Bodega Bay, CA 94923, USA

Editorial Board

John Aitken MRC Reproductive Biology Unit Edinburgh

Baccio Baccetti University of Siena

J. Michael Bedford Cornell University Medical College

Benjamin G. Brackett College of Veterinary Medicine Athens, USA

Peter Braude St. Thomas' Hospital London

Colin Brownlee
The Plymouth Marine Laboratory

Andrew Cameron California Institute of Technology Chiara Campanella University of Naples

Jacques Cohen Cornell University Medical College

Mauro Cresti University of Siena

Alberto Darszon
Universidad Naçional Autonoma
Mayiro

Louis DeFelice Emory University

Christian Dumas University of Lyon

David Epel Hopkins Marine Station Stanford University

Alan Handyside Hammersmith Hospital London Motonori Hoshi

Martin Iohnson

Tokyo Institute of Technology

University of Cambridge
Steven L'Hernault

Emory University

Howard Lipshitz
California Institute of Technology

Frank J. Longo University of Iowa

Yoshi Masui University of Toronto

Anne McLaren The Wellcome/CRC Institute Cambridge

Scott Russell University of Oklahoma Allen Schuetz Johns Hopkins University

Andrzej K. Tarkowski University of Warsaw

Alan Trounson
Institute of Reproduction and
Development, Monash University

Victor Vacquier Scripps Institution of Oceanography, la Jolla

Paul Wassarman Roche Institute of Molecular Biology, Nutley

Michael Whitaker University College and Middlesex School of Medicine, London

Ryuzo Yanagimachi University of Hawaii Medical School

© CAMBRIDGE UNIVERSITY PRESS 1994

SUBSCRIPTIONS

Zygote (ISSN 0967–1994) is published quarterly in February, May, August and November. The subscription price (excluding VAT) of Volume 2, 1994 is £80 net (US \$148 in USA, Canada and Mexico) post free; single parts cost £22 net (US \$39 in USA, Canada and Mexico) plus postage. EC subscribers (outside the UK) who are not registered for VAT should add VAT at their country's rate. VAT registered subscribers should provide their VAT registration number. Four parts form a volume. Orders, which must be accompanied by payment, may be sent to any bookseller, subscription agent or to the publisher: Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge, CB2 2RU, or in the USA, Canada and Mexico to Cambridge University Press, The Journals Department, 40 West 20th Street, New York, NY 10011–4211, USA. Copies of the journal for subscribers in the USA, Canada and Mexico are sent by air to New York to arrive with minimum delay. Japanese prices for institutions (including ASP delivery) are available from Kinokuniya Company Ltd, P.O. Box 55, Chitose, Tokyo. Application to mail at second-class rates pending at New York, NY, and additional mailing offices. POSTMASTER: send address changes in USA, Canada and Mexico to Zygote, Cambridge University Press, 110 Midland Avenue, Port Chester, New York, NY 10573–9864.

Claims for missing issues should be made immediately on receipt of the subsequent issue.

ADVERTISING

Apply to The publisher. Address enquiries to: Rebecca Symons (UK) or Elaine Rowland (North America).

COPYING

This journal is registered with the Copyright Clearance Centre, 222 Rosewood Drive, Danvers, MA 01923. Organisations in the USA who are also registered with the C.C.C. may therefore copy material (beyond the limits permitted by sections 107 and 108 of US copyright law) subject to payment to C.C.C. of the per-copy fee of \$5.00. This consent does not extend to multiple copying for promotional or commercial purposes. Code 0967–1994/94 \$5.00 + .00.

Organisations authorised by the Copyright Licensing Agency may also copy material subject to the usual conditions.

ISI Tear Sheet Service, 3501 Market Street, Philadelphia, Pennsylvania 19104, USA is authorised to supply single copies of separate articles for private use only.

For all other use, permission should be sought from the Cambridge or the American Branch of Cambridge University Press.

Zygote: The Biology of Gametes and Early Embryos is covered by Chemical Abstracts.

Cover illustration: Ratio confocal image of cytoplasmic calcium in a polarised zygote of Fucus serratus, showing localised elevation of calcium in the apex of the growing rhizoid. (Courtesy of Colin Brownlee)