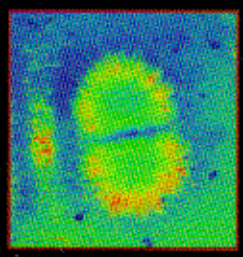
The Zebrafish: Cellular and Developmental Biology, Part B



THIRD EDITION

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Building on the foundation of the first (1999) and second (2004) editions of *Methods in Cell Biology: The Zebrafish*, the Third Edition began with *Cellular and Developmental Biology, Part A* and now continues with this volume, *Part B*. Herein our contributors describe the latest methodological advances pertinent to the Cellular, Developmental and Neural Biology of the zebrafish. One theme that clearly emerges from these chapters is that the zebrafish is the preeminent vertebrate model for mechanistic *cellular* studies of developmental processes *in vivo*. This volume will serve as a valuable resource to both seasoned zebrafish investigators as well as to those who are newly adopting the zebrafish model as part of their research armamentarium.

KEY FEATURES

- Provides a comprehensive compendium of laboratory protocols and reviews covering all the new methods developed since 2004.
- Delivers state-of-the-art descriptions of novel cellular imaging technologies for study of the cytoskeleton and cell cycle.
- Presents methods for stem and progenitor cell culture in zebrafish and medaka.
- Thoroughly explores protocols for analyzing the development of major organ systems, including the central and peripheral nervous systems and visceral organ systems
- Introduces behavioral assays for analysis of sleep and learning.

Cover image: Mitotic spindle of a blastomere from a two-cell transgenic embryo expressing the microtubule-binding fragment of Ensconsin fused to three GFPs. The embryo was also injected with Alexa-647-labeled tubulin at the one-cell stage. Live imaging of the GFP and Alexa channels was performed using laser-scanning confocal microscopy (for details, see Wühr *et al.*, Chapter 1, this volume). Ratiometric analysis of the pseudocolored image suggests differences in labeling of spindle microtubules by the two probes.

Volume 101 of METHODS IN CELL BIOLOGY
Series Editors: Leslie Wilson and Paul Matsudaira

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ACADEMIC PRESS
An imprint of Elsevier
elsevierdirect.com

ISBN 978-0-12-387036-0