PROTEINS AND CELL REGULATION

Series Editors: Prof. Anne Ridley and Prof. Jon Frampton

RHO Family GTPases

Edited by
Ed Manser

This volume provides a unique collection of detailed chapters from some of the leading research groups in the world, many of which have made key discoveries in the field. This allows for particularly insightful discussion of the current understanding of Rho function.

Work on signal transduction pathways involving Rho family GTPases started some 10 years ago. There is now a realization that these highly conserved molecular switches not only serve to coordinate cytoskeletal organization but also impact on diverse aspects of cell biology such as membrane trafficking, transcriptional regulation and mitotic progression.

Humans contain more than 20 Rho type GTPases. This volume not only presents a detailed phylogenetic analysis of Rho proteins, but also discusses the possible origins of the human members. Such an analysis of human Rho GTPases has not previously been attempted.

This volume includes an overview of how Rho GTPases become activated which is complemented by an extensive Chapter by Darerca Owen and Helen Mott who unravel the beautiful molecular details given to us by the many structural studies of Rho GTPases.

The key areas currently being investigated in relation to these ubiquitous proteins are described for both in vitro and in vivo systems. These are presented in a format that ensures the reader can approach the topic with minimal background knowledge, while ultimately bringing the subject to the level of an expert. Timely and highly authoritative, this volume illuminates newer findings, particularly as they relate to Rho proteins in vertebrate biology.

ISBN 1-4020-3461-X

9 781402 034619

springeronline.com

PROR 3