
Preface

In the first and second editions of this volume, a simple observation was made that “the regulation of intracellular Ca^{2+} is a common theme presented in many papers over the last 20 years.” This statement is equally true as a preface for the third edition. Indeed, a crude PubMed search of “calcium AND signaling” starting in 1985 with the seminal paper of Grynkiewicz and colleagues yields >60,000 hits.

The third edition has seen some reorganization; starting with a new editor, Richard Rainbow, and encompasses some of the exciting new molecular techniques that have both enabled new studies of intracellular Ca^{2+} regulation and provided much new information on processes. The third volume is in five parts and comprises 21 chapters; 9 are completely new and the remainder have, in the main, undergone major revision/updating. The five parts are as follows: (1) Theoretical and very simple suspension-based fluorimetric assay, (2) Specialist measurement systems, (3) Measurement of channel activity, (4) Measurement of store release, and the final main section, (5) Specialist measurement techniques which include targeted probes, using G-protein chimeras to force Ca^{2+} signalling for screening, and genetically encoded sensors. Some of the chapters that were left out of this volume can be easily accessed and used to inform rather more basic investigations.

Again compilation of a multiauthor book like this is quite time-consuming, and we are grateful to our authors for their continued patience when things seemed to slow or even stop. Your chapters were in a safe place, and now they can be read. We also acknowledge the help of Professor John M. Walker (series Editor) and David Casey at Springer for keeping us in line.

We would simply end this preface in the same way as for the first and second editions by saying that we hope the third edition will be useful for those contemplating moving into studies of intracellular Ca^{2+} . We hope that you can be tempted to have a try with new technologies and equipment and that you find experimental enquiry in this area as stimulating as we have and still do.

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