

BOOK REVIEWS

Advances in Second Messenger and Phosphoprotein Research, Series Editors: P. GREENGARD and G. A. ROBISON. Vol. 21 (Proceedings) and 21A (Abstracts) Volume Editors: R. ADELSTEIN, C. KLEE and M. RODBELL. Published 1988 by Raven Press, New York. Vol. 21—No. of pages, 240; Price at August 1988.; US\$ 100; ISBN: 0-8816-407-9. Vol. 21A—No. of pages, 112; Price at August 1988.; US\$ 49; ISBN: 0-88167-430-3.

From a relatively humble beginning as a satellite workshop of the 25th Congress of Physiological Sciences in 1971, International Conferences on Cyclic Nucleotides have steadily progressed and expanded every three years. As a result, and in response to growing interest in second messengers, the Advances in Cyclic Nucleotide and Protein Phosphorylation Research Series has expanded its scope to cover all intracellular subjects, including inositol phosphates, calcium cyclic nucleotides, other second messengers, and phosphoproteins. Reflecting this expanded coverage, the series will be known as Advances in Second Messenger and Phosphoprotein Research.

These two volumes contain the Proceedings and Abstracts respectively of the 6th International Conference on Cyclic Nucleotides, Calcium, and Protein Phosphorylation, held in Bethesda, Md, U.S.A., on 2-7 September 1986. This conference continued the tradition of discussing the complex series of events originating from activation of surface receptors and the role that cyclic nucleotides, calcium, and numerous protein kinases play in those events. Although these substances are dominant and important considerations in these Proceedings, the overriding theme is the role of membrane lipids and GTP-binding proteins (G-proteins) as mediators of the actions of chemical and extraterrestrial signals (light) on their receptors in cell membranes. Popularly known as "signal transduction", this theme has become in recent years one of the most exciting research topics in contemporary biology.

The chapters included are as follows:

- Adrenergic receptors;
- Cross talk between receptors: muscarinic receptors, sodium channels, and guanine nucleotide-binding proteins in rat membrane preparations and synaptoneuroosomes;
- Specific lipid requirements in reconstitution of the delipidated β -adrenergic receptor with the delipidated regulatory protein;
- Receptor desensitization;
- Preliminary structural model of the G-protein alpha-chain;
- Roles of GTP regulatory proteins, the substrates of islet-activating protein, in receptor-mediated adenylate cyclase inhibition, phospholipase C activation and cell proliferation;
- GTP regulatory proteins;
- ADP-ribosylation;
- Mechanisms of inositol triphosphate action;
- Metabolism of phosphoinositides;
- IgE-receptor-mediated Ca^{2+} translocation;
- Protein kinase C in transmembrane signaling;
- Mechanism and function of cAMP- and cGMP-dependent protein;
- Protein kinases and phosphatases;
- Phosphorylation and cell motility: a summary;
- Ca^{2+} , phospholipid and Ca^{2+} , calmodulin-dependent myosin light chain phosphorylation of smooth muscle and nonmuscle cells;
- Cyclic GMP and atrial natriuretic factor;
- Phosphodiesterases;
- cAMP metabolism in the porcine kidney epithelial cell line LLC-PK;
- the central role of the cAMP-dependent protein kinase in cAMP-mediated gene induction;
- Cyclic AMP in prokaryotes;
- Studies of the physiological role of specific neuronal phosphoproteins;
- The plasma membrane calcium transporting systems in the regulation of cell calcium;
- The role of Ca^{2+} in the hormonal control of intramitochondrial metabolism in heart, liver, and adipose tissue;
- Involvement of the guanine nucleotide-binding protein, N_0 , in the inhibitory regulation of neuronal calcium channels;
- Calcium channels: a summary; Ca^{2+} -binding proteins;
- Significance of domain structure of calmodulin on the activation of Ca^{2+} -calmodulin-regulated enzymes;
- ras* Oncogene protein as a G-protein;
- Oncogenes, growth regulation, and cancer.

These two volumes would be useful for people working in molecular biology, biophysics, biochemistry, and biology, as well as for general clinicians.

Glossary of Biochemistry and Molecular Biology. DAVID M. GLICK. Published May 1990 by Raven Press, New York. No. of pages: 200-; Price: US\$ 24.00; ISBN: 0-88167-563-6.

The new techniques and very enormous developments in biochemistry and molecular biology have created new terminology and expressions, and to have all these new words in a condensed book is extremely practical.

Biochemists speak a language that is not always understood by others and the author's intention has been to break down this artificial barrier in order to facilitate dialogue with novice students, as well as with researchers in other fields interested in these subjects. The glossary concentrates on words and phrases unique to, or having assumed unique meanings in, the fields of biochemistry and molecular biology. However, the boundaries with medicine, cell biology, and chemistry are arbitrary, so chemical words such as 'epimer' and medical terms such as 'serum' are included because they are also commonly used by biochemists.

This book is presented in the form of a pocket-size manual enabling researchers and students alike to immediately check any unfamiliar term encountered in these fields, such as "fingerprint", "library", and "ping-pong", which take on entirely new meanings when related to these disciplines.

This glossary is time-saving and effective, and would be very useful for people working in biochemistry, molecular biology, biophysics, and general biology, as well as for students in these fields.