

BOOK REVIEW

Receptor Signal Transduction Protocols

edited by R. A. J. Challis, Humana Press, 1997

This is a well-edited volume likely to be of great value to investigators in the field of G-protein signaling. The material is well organized, so that there is a logical continuity to the techniques in each chapter, moving from techniques used in receptor studies to techniques that deal with effectors further downstream from receptors. The contents are organized into three parts. First, material is presented dealing with various techniques useful in the study of the receptor involved in the signal transduction cascade. This section describes classical receptor binding assays and techniques, such as site-directed mutagenesis and immunocytochemical methods for receptor localization. The second section deals with methods for studying the activation of the effectors immediately downstream of the receptor. In this part, techniques for identification of G-proteins with antisense methods and by covalent modification of G-proteins by affinity labeling is explained. The third and final section deals with techniques for identifying effects further downstream of G-proteins, such as G-protein coupled receptor kinase activity and gene regulation.

The basic organization of the material in each chapter also makes it easier to understand each technique and use it in one's own investigations. Each methodology described here is accompanied by notes and critiques that provide useful information regarding the pitfalls of the procedures and ways to avoid them. These notes are especially useful when a protocol has to be modified or adapted for a particular use. Furthermore, each chapter has a very thorough list of references for further elaboration of the methods if needed.

Although this book does not deal with some important aspects of receptor-mediated signal transduction, such as receptor interaction, receptor-induced effector modification, and redistribution, to note a few, it describes and brings together some frequently used methodologies in one volume. More liberal use of figures and diagrams would have increased the clarity of some concepts described in some chapters, but overall, authors have made good use of the illustrations. This book is useful as a general manual in any G-protein-coupled receptor signal transduction laboratory. Its usefulness is in the versatility of the techniques, which can be modified to suit your individual need.

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