

This text provides a comprehensive overview of recent discoveries and current understandings of G protein-coupled receptors (GPCRs). Recent advances include the first mammalian non-rhodopsin GPCR structures and reconstitution of purified GPCRs into membrane discs for defined studies, novel signaling features including oligomerization, and advances in understanding the complex ligand pharmacology and physiology of GPCRs in new assay technologies and drug targeting.

The first chapters of this book illustrate the history of GPCRs based on distinct species and genomic information. This is followed by discussion of the homo- and hetero-oligomerization features of GPCRs, including receptors for glutamate, GABA_A, dopamine, and chemokines. Several chapters are devoted to the key signaling features of GPCRs. The authors take time to detail the importance of the pathophysiological function and drug targeting of GPCRs, specifically β -adrenoceptors in cardiovascular and respiratory diseases, metabotropic glutamate receptors in CNS disorders, S1P receptors in the immune system, and Wnt/Frizzled receptors in osteoporosis.

This book will be invaluable to researchers and graduate students in academia and industry who are interested in the GPCR field.

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Cover image source: Vadim Cherezov, Daniel M. Rosenbaum, Michael A. Hanson, Soren G. F. Rasmussen, Foon Sun Thian, Tong Sun Kobilka, Hee-Jung Choi, Peter Kuhn, William I. Weis, Brian K. Kobilka, and Raymond C. Stevens. 2007. High-Resolution Crystal Structure of an Engineered Human 2-Adrenergic G Protein Coupled Receptor. *Science*. 318, 1258-1265.

Cover design by Alice Soloway

CAMBRIDGE
UNIVERSITY PRESS

www.cambridge.org

ISBN 978-0-521-11208-6



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