

# The Dopamine Receptors

# THE RECEPTORS

KIM A. NEVE, SERIES EDITOR

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Kim A. Neve  
Editor

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# Preface

As sites of action for drugs used to treat schizophrenia and Parkinson's disease, dopamine receptors are among the most validated drug targets for neuropsychiatric disorders. Dopamine receptors are also drug targets or potential targets for other disorders such as substance abuse, depression, Tourette's syndrome, and attention deficit hyperactivity disorder. When chapters were being written for the first edition of "The Dopamine Receptors," published in 1997, researchers were still coming to grips with the discovery of novel dopamine receptor subtypes whose existence had not been predicted by pharmacological analysis of native tissue. Although we are still far from a complete understanding of the roles of each of the dopamine receptor subtypes, the decade since the publication of the first edition has seen the creation and characterization of mice deficient in each of the subtypes and the development of increasingly subtype-selective agonists and antagonists. Many of the chapters in this second edition rely heavily on new knowledge gained from these tools, but the use of knockout mice and subtype-selective drugs continues to be such a dominant theme in dopamine receptor research that these topics are also discussed in stand-alone chapters. The field of G protein-coupled receptors has advanced significantly since the publication of the first edition, with a model of GPCR signaling based on linear, compartmentalized pathways having been replaced by a more complex, richer model in which neurotransmitter effects are mediated by a signalplex composed of numerous signaling proteins, including multiple GPCRs, other types of receptors, such as ionotropic receptors, accessory and scaffolding proteins, and effectors. Again, although many chapter topics are affected by this more complex model, key aspects of the model are specifically addressed in new chapters on dopamine receptor-interacting proteins and on dopamine receptor oligomerization.

My goal has been to produce a book that will serve as a reference work on the dopamine receptors while also highlighting the areas of research that are most active today. To achieve this goal, I encouraged contributors to write chapters that set a broad area of research in its historical context and that look forward to new research opportunities. I hope that readers will agree with me that the authors have achieved that goal.

Portland, Oregon  
March, 2009

Kim A. Neve

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