

Contents

Preface..... v

Section I Anatomical Studies of the Monoaminergic System

1. The Discovery of Multiple Serotonin Receptor Subtypes:
A Lesson from Molecular Cloning to Functional Expression 1
Milt Teitler

2. Distribution of D1-Like and D2 Receptors in the Monkey Brain:
Implications for Cognitive Function in Schizophrenia 21
*Ladislav Mrzljak, William E. Fieles, Amy M. Medd, Brian L. Largent,
and Zafar U. Khan*

3. Anatomical Characteristics of Norepinephrine Axons in the
Prefrontal Cortex: *Unexpected Findings That May Indicate Low
Activity State in Naïve Animals* 35
Lee Ann H. Miner and Susan R. Sesack

Section II Monoaminergic Regulation of Cortical Function

4. Serotonin Modulation of Cortical Activity 67
Pau Celada and Francesc Artigas

5. Serotonergic Regulation of NMDA Receptor Trafficking
and Function in Prefrontal Cortex 91
Eunice Y. Yuen and Zhen Yan

6. Cross-Modulation Between GABA_B and 5-HT Receptors: <i>A Link Between Anxiety and Depression?</i>.....	103
<i>Juan C. Pineda and José L. Góngora-Alfaro</i>	
7. Serotonin Involvement in Plasticity of the Visual Cortex	113
<i>Qiang Gu</i>	
8. Cellular Mechanisms of Working Memory and its Modulation by Dopamine in the Prefrontal Cortex of Primates and Rats.....	125
<i>Guillermo Gonzalez-Burgos, Sven Kröner, and Jeremy K. Seamans</i>	
9. Dopamine D1 and Glutamate N-Methyl-D-Aspartate Receptors: <i>An Essential Interplay in Prefrontal Cortex Synaptic Plasticity</i>	153
<i>Maria Sol Kruse and Thérèse M. Jay</i>	
10. Prefrontal Cortical Synaptic Plasticity: <i>The Roles of Dopamine and Implication for Schizophrenia</i>	165
<i>Yukiori Goto and Satoru Otani</i>	
11. Acquiring the Excitatory and the Inhibitory Action of Dopamine in the Prefrontal Cortex During Postnatal Development	175
<i>Kuei Y. Tseng</i>	
12. Dopamine and Noradrenaline Coupling in the Cerebral Cortex.....	189
<i>Paola Devoto and Giovanna Flore</i>	
13. Regulation of Cortical Functions by the Central Noradrenergic System: Emerging Properties from an Old Friend	197
<i>Marco Atzori, Humberto Salgado, and Kuei Y. Tseng</i>	
14. Neuromodulation of Cortical Synaptic Plasticity	209
<i>Alfredo Kirkwood</i>	
Section III Computational Analyses of Cortical Monoaminergic Function	
15. Dopaminergic Modulation of Prefrontal Cortex Network Dynamics	217
<i>Daniel Durstewitz</i>	
16. Stable and Unstable Activation of the Prefrontal Cortex with Dopaminergic Modulation	235
<i>Shoji Tanaka</i>	
17. Dopamine and Norepinephrine Modulation of Cortical and Subcortical Dynamics During Visuomotor Learning	247
<i>Hernán G. Rey, Sergio E. Lew, and B. Silvano Zanutto</i>	

Section IV Monoamines and Psychiatric Disorders

18. Basal Ganglia–Cortex Interactions: <i>Regulation of Cortical Function by D1 Dopamine Receptors in the Striatum</i>.....	261
<i>Heinz Steiner</i>	
19. Interplay Between Dopamine and Acetylcholine in the Modulation of Attention	283
<i>Marco Atzori and Rodrigo Paz</i>	
20. Monoamine-Based Treatments in Schizophrenia: <i>Time to Change the Paradigm?</i>	299
<i>Rodrigo D. Paz and Kuei Y. Tseng</i>	
21. Prefrontal Cortical Circuits and Schizophrenia Pathophysiology.....	313
<i>Patricio O'Donnell</i>	
Index.....	327