TABLE OF CONTENTS

- o Preface 2015
- Preface 2005
- o Acknowledgments

0

- Chapter 1: Vertebrate Central Nervous System Development: Introduction
 - Abstract
 - 1.1 Introductory Remarks: The Order of the Universe
 - 1.2 Major Developmental Stages of the Vertebrate Neural Tube
 - 1.3 Functional Brain Architecture: Mammalian Examples
 - 1.4 Primary and Secondary Neurogenesis in Anamniotes and Amniotes
 - 1.5 The Approach of This Book
- Chapter 2: Atlas of Cellular Markers in Zebrafish Neurogenesis: Atlas
 - Abstract
 - 2.1 Choice and Characterization of Molecular Markers
 - 2.2 Technical Details
 - 2.3 The End of Embryonic Life (2 Days): Outset of Secondary Neurogenesis
 - 2.4 The Early Larva (3 Days): The Emergence of Brain Subdivisions
 - 2.5 The Late Larva (5 Days): Increasing Differentiation
 - 2.6 The Emergence of Transmitter Phenotypes (2 and 3 days): GABA

• Chapter 3: Interpretation of Data—How to Use the Atlas: Analysis

- Abstract
- 3.1 General and Local Dynamics of Neurogenesis
- 3.2 The Generation of Glutamatergic Versus GABAergic Neurons
- 3.3 The Generation of Modulatory Neurons
- 3.4 The Exception to the Rule: Peripheral Proliferation and Neurogenesis in the Diencephalon (M1 and M2)
- 3.5 The Cerebellar and Rhombic Lip Region: Pervasive Tangential Migration
- 3.6 BrdU Proliferation Assays
- .
- Chapter 4: Comparison of Vertebrate Model Systems: Model Systems
 - Abstract
 - 4.1 Development of Pallial and Subpallial Territories in Vertebrates
 - 4.2 Mammalian Telencephalon: Pallial and Subpallial Gene Expression Patterns

- 4.3 Teleostean Telencephalon: Evolution and Development of Pallial Territories in the Zebrafish
- 4.4 Subpallial Territories: Identification and Development of the Zebrafish Basal Ganglia
- 4.5 Conserved Early Diencephalic Gene Expression Patterns in Vertebrates
- 4.6 Expression of Basic Helix-Loop-Helix (bHLH) Genes Indicates a Phylotypic Stage of Neurogenesis within a Conserved Vertebrate Forebrain Bauplan
- \circ References
- o Abbreviations
- \circ INDEX.