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## Preface

The past decade has seen an extraordinary growth in research interest in neurotrophic factors, and the study of the neurotrophin family has led this activity. Nevertheless, this area of research has often struggled as a result of techniques that were either inadequate or just emerging from other research fields and disciplines. *Neurotrophin Protocols* has brought together many leaders in the neurotrophin field who detail their special expertise in a wide variety of techniques. Though most procedures are valid across many different fields of research, some of those described here have been developed to address particular issues within the neurotrophic factor field. The protocols cover a broad range of biochemical, histological, and biological techniques that are often required by the modern laboratory. However, all have been written with sufficient detail to allow any laboratory to achieve proficiency without need of reference to other texts.

*Neurotrophin Protocols* is divided into four sections dealing with protein, RNA, recombinant, and in vivo techniques. Protein techniques have in general been less successfully employed than those dealing with RNA or DNA. However, procedures that achieve localization and quantification of the neurotrophins are now being used more extensively. Their inclusion here should assist further studies at the protein level. Transgenic cell lines and animals are commonplace in the scientific research literature, but their inclusion in several chapters in this book provide some novel uses that are not readily available elsewhere. Quantitative and histological methods for the analysis of neurotrophin mRNA are also included. Although radiotracing techniques have become less common, two useful but distinctly different procedures have been included for specialist investigation of neurotrophin transport in both the retrograde and anterograde directions. Other procedures include the increasingly popular use of immunotoxins to study the effects of elimination of a single class of neurons and the essential stereological method for estimation of neuronal numbers.

Because of this wide range of protocols and the extensive contributions of the authors over many years, *Neurotrophin Protocols* should be of high interest and utility to both postgraduate students and established investigators alike.

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