The recent identification of susceptibility genes for schizophrenia, depression and learning and memory dysfunction suggest that psychiatric disorders may be influenced by a small number of genes with multiple actions. This is the first book to investigate the role of growth factors in these disorders, which should provide clues to the underlying biochemical mechanisms.

Recent studies have substantiated the provocative finding that neuregulin 1 (NRG1) is a candidate gene for schizophrenia. Neuregulin and its receptors, the ErbB tyrosine kinases, are essential for development of the cardiovascular and nervous systems. Lack of NRG1 function may be involved in dysregulation of synaptogenesis and synaptic plasticity in the adult mediated through glutamate receptor function. Polymorphisms for BDNF (brain-derived neurotrophic factor) have also been implicated in the pathogenesis of schizophrenia. BDNF is a prevalent neurotrophic factor that plays an important role in the pathophysiology of depression, bipolar disease and other psychiatric disorders.

Other topics addressed in this book include neuroplasticity and neurotrophic factors, signal transduction by neurotrophins, intracellular trafficking of growth factors, trophic factors and cognitive functions, neurotrophins and depression, and pharmacological treatments of schizophrenia.