

Preface

Almost 17 years have passed since the discovery of orexin/hypocretin. Initially, the peptide was thought to be exclusively a regulator of feeding behavior. Soon after its discovery, however, it was proposed that orexin deficiency was a cause of narcolepsy in humans and other mammalian species, thus implicating orexin's potential role in the regulation of sleep and wakefulness. More recently, it has been suggested that orexin is an important modifier and regulator of emotion, energy homeostasis, reward, drug addiction, and arousal. Accumulating evidence has shown that more generally orexin neurons facilitate the body's sensing of external and internal environments and that accordingly they regulate vigilance states.

In recent years, orexin has received a great deal of attention as a potent endogenous, arousal-promoting peptide. The clinical implications of orexin's properties subsequently led to the development of several orexin receptor antagonists for the treatment of sleep disorders. In this respect, the orexin 1 and 2 receptor antagonist suvorexant has been recently made available for the treatment of insomnia disorders. Given the orexin system's broad range of functions, it has been suggested that orexin receptor antagonists might be also beneficial for treating a variety of conditions other than sleep disorders, including addictive, mood, and eating disorders.

In the present book, the authors discuss the physiological functions of orexins from various perspectives. The therapeutic potential of drugs that target orexin receptors is also discussed in detail. It is anticipated that these studies, which have used a number of different approaches, are expected to provide valuable insights into the physiological functions of the orexin system.

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