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Nota di contenuto	Phosphodiesterases and cyclic nucleotide signaling in the CNS / Marco Conti and Wito Richter -- Putting together the pieces of phosphodiesterase distribution patterns in the brain : a jigsaw puzzle of cyclic nucleotide regulation / Michy P. Kelly -- Compartmentalization and regulation of cyclic nucleotide signalling in the CNS / Manuela Zaccolo and Alessandra Stangherlin -- Pharmacological manipulation of cyclic nucleotide phosphodiesterase signaling for the treatment of neurological and psychiatric disorders in the brain / Frank S. Menniti, Niels Plath, Christopher J. Schmidt, and Niels Svenstrup -- Recent results in phosphodiesterase inhibitor development and CNS applications / David P. Rotella -- Crystal structures of phosphodiesterases and implication on discovery of inhibitors / Hengming Ke, Huanchen Wang, Mengchun Ye, and Yingchun Huang -- Inhibition of cyclic nucleotide phosphodiesterases to regulate memory / Han-Ting Zhang, Ying Xu, James O'Donnell -- Emerging role for PDE4 in neuropsychiatric disorders : translating advances from genetic

studies into relevant therapeutic strategies / Sandra P. Zoubovsky, Nicholas J. Brandon P, and Akira Sawa -- Beyond erectile dysfunction : understanding PDE5 activity in the central nervous system / Eva P. P. Bollen, Kris Rutten, Olga A. H. Reneerkens, Harry M.W Steinbusch, and Jos Prickaerts -- Molecular and cellular understanding of PDE10A : a dual-substrate phosphodiesterase with therapeutic potential to modulate basal ganglia function / Erik I. Charych and Nicholas J. Brandon -- Role of cyclic nucleotide signaling and phosphodiesterase activation in the modulation of electrophysiological activity of central neurons / Sarah Threlfell and Anthony R. West -- The role of phosphodiesterases in dopamine systems governing motivated behavior / Gretchen L. Snyder, Akinori Nishi, and Joseph P. Hendrick -- Inhibition of phosphodiesterases as a strategy for treatment of spinal cord injury / Elena Nikulina and Marie T. Filbin.

Sommario/riassunto

This book reviews advances in understanding phosphodiesterases within the central nervous system and their therapeutic applications. A range of expert authors from both academia and industry describe these, then focus on the areas of greatest scientific and medical interest to provide more detailed coverage. Therapeutic and drug discovery applications are covered for diseases including Alzheimer's, Parkinson's, schizophrenia, erectile dysfunction, and spinal cord injuries. There is also a chapter on drug discovery tools such as in vitro assays and X-ray structures for medicinal chemistry studi