The cell cycle in the central nervous system /

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Monografía

It is now known that the adult mammalian brain undergoes repair and renewal from pools of stem cells and that cell cycle alteration may cause a variety of neurological disorders ranging from autism to brain tumors. In The Cell Cycle in the Central Nervous System, prominent researchers, physicians, engineers, and pharmacologists join forces to delineate how the brain is a complex organ composed of widely varying cell types, including blood vessels, and what its cellular-based disorders may be. Topics covered range from the cell cycle during the prenatal development of the mammalian central nervous system (CNS) to future directions in postnatal neurogenesis through gene transfer, electrical stimulation, and stem cell introduction. Additional chapters examine the postnatal development of neurons and glia, the regulation of cell cycle in glia, and how that regulation may fail in pretumor conditions or following a nonneoplastic CNS response to injury. Highlights include treatments of the effects of deep brain stimulation on brain development and repair; the connection between the electrophysiological properties of neuroglia, cell cycle, and tumor progression; and the varied immunological responses and their regulation by cell cycle. State-of-the-art and readily understandable, The Cell Cycle in the Central Nervous System illuminates our understanding of how brain development, disease, renewal, and repair may be mediated by vasculogenesis, neurogenesis, and the immune system, and offers an exciting variety of new research opportunities for all those investigating brain tumors, neurodevelopment, and neurological disorders

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