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Sommario/riassunto

Cyclin Dependent Kinase 5 provides a comprehensive and up-to-date collection of reviews on the discovery, signaling mechanisms and functions of Cdk5, as well as the potential implication of Cdk5 in the treatment of neurodegenerative diseases. Since the identification of this unique member of the Cdk family, Cdk5 has emerged as one of the most important signal transduction mediators in the development, maintenance and fine-tuning of neuronal functions and networking. Further studies have revealed that Cdk5 is also associated with the regulation of neuronal survival during development as well as in neurodegenerative diseases. These observations indicate that precise control of Cdk5 is essential for the regulation of neuronal survival. The pivotal role that Cdk5 appears to play in both the regulation of neuronal survival and synaptic functions thus raises the interesting possibility that Cdk5 inhibitors may have therapeutic potential for the treatment of a number of neurodegenerative diseases.