

Cell Cycle Checkpoint Control Protocols, ISSN1064-3745, Howard B. Lieberman, Springer Science & Business Media, 2004, 372 pages, 9781592596461, 2004

Cell cycle checkpoints are surveillance mechanisms that sequentially and continuously monitor cell cycle progression thereby contributing to the preservation of genetic stability. Among them, the spindle assembly checkpoint (SAC) prevents the occurrence of Δ . This protocol consists essentially of two parts: (1) proliferation of astrocytes under optimal conditions in vitro until reaching desired confluence; and (2) synchronization and G0 phase arrest of cultures by serum down-shift. This procedure has been utilized to examine cell cycle control in astrogloma cells and astrocytes from injured adult brain. It has also been employed in precursor cloning studies in developmental biology, suggesting wide applicability. View. What is cell cycle checkpoint? Every cell in our body pass through a series of different stages in a cyclic manner called cell cycle. Cell cycle is a sequential step that taking place in a cell leading to the accurate duplication of genetic materials (DNA), precise separation of replicated genetic materials and passing them in to two daughter cells. The process of cell cycle is very critical in each cell, thus it operate strictly under strong surveillance to prevent any mistakes. Δ Progression of cell cycle in eukaryotes is highly regulated in certain points. These critical regulatory points of cell cycle are called cell cycle checkpoints. Cell cycle checkpoints ensure that: Δ The nuclear genome is intact (without any mutation). Authoritative and easily accessible, Cell Cycle Control: Mechanisms and Protocols, Second Edition will be a valuable resource for a wide audience, ranging from the experienced cell cycle researchers looking for new approaches to the junior graduate students giving their first steps in cell cycle research. Categories: Biology\Molecular. Year: 2014. Edition: 1. Checkpoints in cell cycle: As we know cells usually divide when they have doubled their content by volume, but actually the control of the process of cell division is very complex and occur precisely. All the process or steps of cell division occurs in sequence and also the cell know when to proceed and when to wait and stop cell division. Δ A checkpoint is one of several points in the eukaryotic cell cycle at which the progression of a cell to the next stage in the cell cycle can be halted until conditions are favorable. Numerous stops occur during the cycle to assess whether the next step should proceed or not and these stops are known as check point. A complex protein called Maturation promoting factor (MPF) have a significant role is cell maturation and mitotic division.