

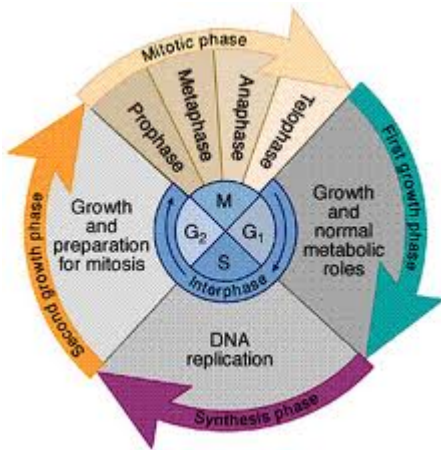
Cell Cycle And Its Stages

Created: Tuesday, 10 May 2011 09:56 | Published: Tuesday, 10 May 2011 09:56 | Written by [Super User](#) | [Print](#)

What is cell cycle?

Cell cycle is the series of events takes place within the cell. The [cell cycle](#) is essential for cell growth. The cell divides into two daughter cells. A eukaryotic cell divide if it replicates its genetic material the [DNA](#) and then it separates the duplicated genome.

The events takes place in cell cycle:



- **The G₁ phase (GAP-1 phase):**

It is required for cell to achieve many tasks cell like DNA synthesis and mitosis. The cell cycle is a continuous, proper, orderly growth and they synthesis DNA.

- **The S-phase (Synthesis phase)**

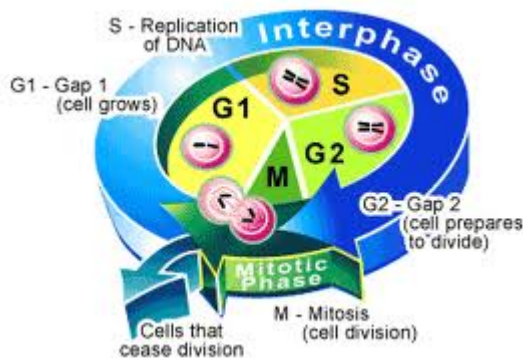
Replication of genome occurs.

- **The G₂ phase (GAP-2 Phase)**

It is essential for cell growth and preparation for mitosis.

- **M phase (Mitosis phase)**

Last phase of the cell cycle and the cells segregate duplicated chromosomes.



The Stages of Cell Cycle

The cell cycle ends with cell growth and division into two daughter cells. Simply we can understand with the help of the above picture

- The G1 stage stands for "GAP 1" helps for cell growth.
- The S stage stands for "Synthesis" and DNA replication process occurs here. The G2 stage stands for "GAP 2" and the cell starts to divide
- The M stage stands for "[mitosis](#)", and in this stage the cell division occurs.

REGULATION OF CELL CYCLE

It involves important processes for the survival of a cell. It first identifies the genetic damage and repairs it and also prevents [uncontrolled cell division](#). The events of the cell cycle are directional and it is not possible to reverse as it happens in a sequential fashion. If the regulation process get disturbed the uncontrolled cell growth can occur. For example, [Cancer](#) is a disease results with the uncontrolled cell growth and the lost of normal growth of cells.

Regulatory Proteins

- Cdk are major control switches for the cell cycle, causing the cell to move through phases.
- MPF triggers progression through the cell cycle.
- p53 is to block the cell cycle if the DNA is damaged. This protein creates cell death happens during severe damage. p53 mutation is the cause for the occurrence of cancer.

Want to know more about "Cell Cycle"? [Click here](#) to schedule live help from a certified tutor!

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Reference Links:

- <http://www.youtube.com/watch?v=lf9rcqifx34>
- http://en.wikipedia.org/wiki/Cell_cycle
- <http://www.youtube.com/watch?v=VGV3fv-uZYI>
- <http://www.cancerquest.org/cell-cycle-stages>

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