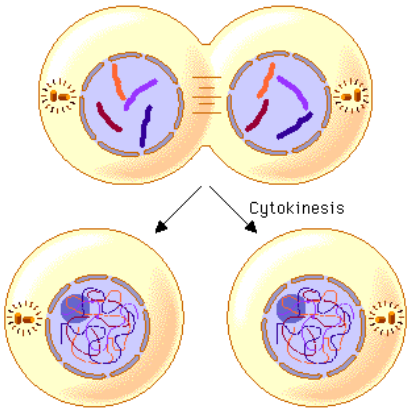
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Cell Reproduction

Created: Tuesday, 26 July 2011 08:26 | Published: Tuesday, 26 July 2011 08:26 | Written by Super User | Print

What is Cell Reproduction?

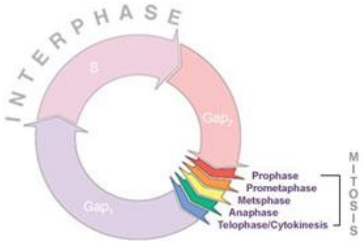
Introduction



Cells are the structural and functional units of all living organisms. Some organisms, such as bacteria, are unicellular, consisting of a single cell. Other organisms, such as humans, are multicellular, or have many cells.

Reproduction is production of a new organism by combination of genetic material of two organisms. This process takes place with the help of different processes like mitosis and meiosis. Meiosis halves the number of chromosomes and by fusion of two gametes. To achieve a homologous recombination or crossover meiosis has to take place.

Cell Cycle:



The process in which a cell grows and divides and creates a copy of its own and reproduces through the cell cycle takes around 24 hours from start to finish.
For a typical animal cell cycle lasts roughly 24 hours, but depending on the type of cell, it can vary in length from less than 8 hours to more than a year. Most of the variability occurs in G1.

Phases of cell cycle

M phase:

The M phase is the actual cell division or mitosis stage, and the interphase represents the phase between two successive M phases. Cell division last only for an hour in 24hr duration in the human cell division. The interphase last for more than 95% of the duration of cell cycle.

Mitosis is responsible for growth and development, as well as for replacing injured or worn out cells throughout your body.

Inter Phase:

Interphase generally lasts at least 12 to 24 hours in mammalian tissue. During this period, the cell is synthesizing RNA, producing protein and growing in size.

Interphase can be divided into 3 steps:

Gap 1 (G1), S (synthesis) phase, and Gap 2 (G2).

Gap 1 (G1):

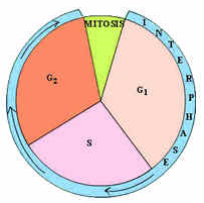
Cells increase in size in Gap 1, produce RNA and synthesize protein. An important cell cycle control mechanism activated during this period and ensures that everything is ready for DNA synthesis.

S Phase:

To produce two daughter cells, the complete DNA instructions in the cell must be duplicated. DNA replication occurs during this phase.

Gap 2 (G2):

During the gap between DNA synthesis andMitosis, the cell will continue to grow and produce new proteins. At the end of this gap controls and determines if the cell can now proceed to enter M (mitosis) and divide.



Mitosis or M Phase: Cell growth and protein production stop in this stage. All of the cell's energy is focused on the division into two similar daughter cells. Mitosis is shorter than interphase, and last for one to two hours. During mitosis the cell ensures that it is ready to complete cell division.

Explain Mitosis and Meiosis?

Want to know more about Cell reproduction? Click here to schedule a live help with an eTutor!

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Reference Links:

- http://en.wikipedia.org/wiki/Cell_%28biology%29
- http://en.wikipedia.org/wiki/Mitosis

- http://en.wikipedia.org/wiki/Chromosome
- http://en.wikipedia.org/wiki/Cell_cycle
- http://en.wikipedia.org/wiki/M_phase"

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