Department of Forensic evidence

Biology Lab

((The Cell Cycle & Mitosis, Patterns of Inheritance))

Lab/9

1 stage

By

Msc. Zahraa Jawad Kadhim

Cell cycle: the ordered sequence of events that occur in a cell in preparation for cell division.

The cell cycle is a four-stage process in which the:

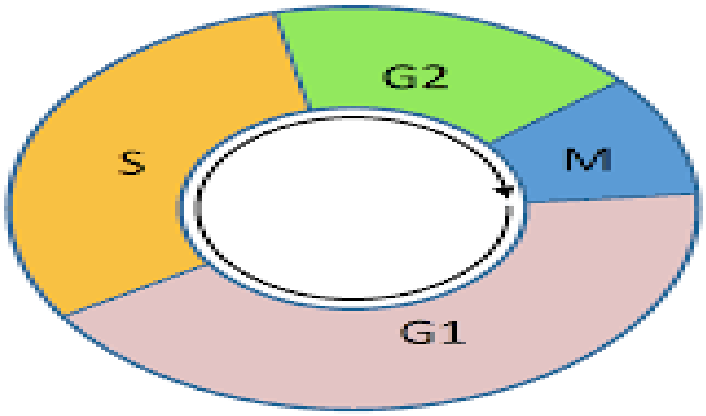
1- cell increases in size (gap 1, or G1, stage)

2- copies its DNA (synthesis, or S, stage)

3- prepares to divide (gap 2, or G2, stage)

4-divides (mitosis, or M, stage).

The stages G1, S, and G2 make up interphase, which accounts for the span between cell divisions. On the basis of the stimulatory and inhibitory messages a cell receives, it “decides” whether it should enter the cell cycle and divide.



G1 - Growth

S - DNA synthesis

G2 - Growth and preparation for mitosis

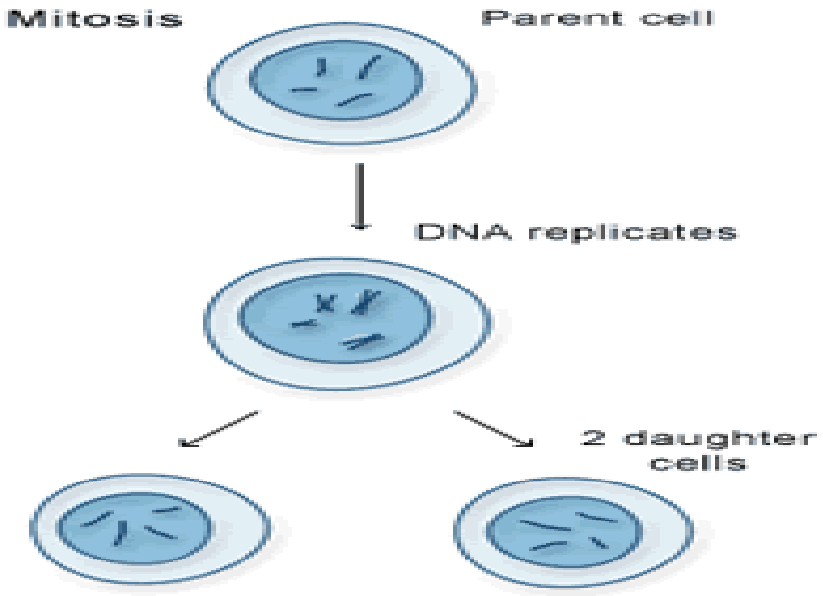
M - Mitosis (cell division)

Mitosis:

Mitosis is used to produce daughter cells that are genetically identical to the parent cells. The cell copies - or 'replicates' - its chromosomes, and then splits the copied chromosomes equally to make sure that each daughter cell has a full set.

Your body contains trillions of cells (thousands of millions). But you started life as a single cell - a fertilised egg cell. This cell then divided and divided to make more cells through a process called mitosis.

Mitosis is a way of making more cells that are genetically the same as the parent cell. It plays an important part in the development of embryos, and it is important for the growth and development of our bodies as well. Mitosis produces new cells, and replaces cells that are old, lost or damaged.



Inheritance patterns: refer to the different ways in which traits are passed from one generation to another.

There are four patterns of inheritance:

1-autosomal dominant

2-autosomal recessive

3-X-linked

4- Complex Inheritance.