



Cell Determination to What Size to Grow and Mystery of Golgi Apparatus

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Zygote contains a DNA as a architecture and form cells of ectoderm, mesoderm and endoderm.

DNA contains a gene and act as a architecture for cell.

It act as a digital clock for the cell division.

- DNA base pair supplies energy to the cell for division as when the cell divides before cytoplasmic division chromosome divides and during chromosome division a huge amount of energy is released
- This energy is supplied for division of organelle and accurate amount of energy is released by DNA for cell to divide it is during S phase
- During meiotic when chromosome pair up then energy is released.

DNA as a digital clock

- For cell division DNA act as a digital clock
- During zygote formation or during cell division. DNA stores information for when to cell to divide
- During normal condition due to absence of T loop normal human cell divides within 24 hours.

DNA as a cell division machinery

- DNA starts the procedure of cell division
- As when cell gets stimulated for systemic division than DNA first one to get stimulated and cell prepare for process for mitosis or meiosis process

DNA division theory

- DNA contains the information stored when and how and what size cell has to divide.
- As DNA act as a digital clock and gets stimulated first so it starts cell cycle

- AS different cell have different function so different gene in DNA will be activated so DNA judges at what size cell has to divide before cell division.

Special case of neuron

Mystery of G0 phase

- A constant division of DNA take place and constant amount of energy released.
- Because of which stimulation of cell is rare so there is very rare chances of cell division in neuron cells.

Cell Division theory

- DNA act as a machinery for cell division. Cell divide when DNA gets stimulated
- As DNA act as a digital clock

How DNA decides what size cell has to divide?

DNA decide as it contains different genes activate at different places which decide cell size.

Similar genes are also present like

- 1 skin colour (for outer body)
- Due to difference of origin of many tissues and different function cell have different size.

Treatment of cancer (at any stage)

Cancer can be treated at any stage by introduction of gene leading to deactivation of oncogenes through

Antibodies or any other method which leads to destruction of cancer cells and can lead to cure of cancer at any stage.

Cause of formation of T loop

The activation oncogenes due to DNA backward rolling and formation of mRNA and formation of oncoproteins lead to uncontrolled cell division.

Cure

- Deactivation of oncogenes by inside heat generation through heat gene activation.
- Through nuclear medicine.

In which lipid coating required they enter through mid and exit through last cisterna.

In cell theory, what is the exact transport mechanism by which proteins travel through the Golgi apparatus.

Mechanism of formation of golgi apparatus.

ER case

Extended part of ER forms golgi apparatus and connected through cytoplasm holded by cytoskeleton.

Vesicle formation mechanisms

- Step 1: Protein molecule enters through golgi apparatus
- Step 2: Glycosidation occurs in the cisterna.
- Step 3: At last cisterna vesicles are covered by lipids

Rudimentary presence of golgi apparatus in most plants.

Golgi apparatus formation mechanism

- Step 1: Part of Endoplasmic reticulum extends
- Step 2: Cisterna part death aches and cytoplasmic barrier occurs
- Step 3: Cytoplasmic barrier connects both
- Step 4: Golgi apparatus is formed
- Step 5: Some enzymes from ER are transformed from ER to golgi apparatus

Golgi apparatus packaging in plants.

Single cisterna case

In single cisterna case proteins are packed and glycosidation occurs and lipid coating occurs in single cisterna case.

It's the prove that animal cells are more advanced than plants in case of golgi apparatus.

Protein travel mechanism through golgi apparatus

- Step 1: Protein enter golgi apparatus through endocytosis
- Step 2: Glycosidation occurs at mid cisterna
- Step 3: Than exit through last cisterna usually

In some cases in which protein glycosidation required they exit through mid or Second cisterna.