



Short Note on Cell biology

Mounica Merihelan*

Abstract: Cell biology is the study of cell and its structure, components, metabolism and other various aspects and the very true nature of the cell. Cell is a basic unit of Life itself. It helps in understanding the way of communication between cells and their structural and bio chemical reactions which can give in a glimpse on Evolution of Life and their origin. Several techniques like cell culture, cell fractionation and some instrumentals like phase contrast microscopes are used to study the cells. By studying these factors diseases and cancers can be cured by understanding the very nature of a cell.

Keywords: Cell biology; Fluorescence microscopes; Cell; Mitosis

Technique that are used in studying of a cell includes Cell Culture where the rapidly growing cells are cultured in a media of same type helps in studying their physiology and behavior. Other techniques like Cytometry where the cells are separated by the size and content using light beam. Cell fractionation is a widely used technique where the cells walls are damaged with high and low temperature causing heat shock and subjective cells are treated with high centrifugation causing the cells to be ruptured and the organelles can be studied individually. Instruments like Phase contrast, Fluorescence microscopes are used to observe the detailed anatomy and structural engineering of a cell.

Based on the behavior, structural and evolutionary biases Cells are categorized into two types Prokaryotic and Eukaryotic cells. Prokaryotic cells are unicellular organisms with no cell organelles whereas Eukaryotic cells are multicellular and has many cell organelles with Nuclei and nuclear membranes in them. Prokaryotic cells are mainly studied by Microbiologist whereas eukaryotes are studied by cytologists

Every cell undergoes metabolism or cellular respiration for survival and to keep their organelles running. The basic metabolic pathways starts with Glycolysis where glucose is being broken down and produce Pyruvate which is then converted into Acetyl CoA by Decarboxylation which produces two molecules NADH + FADH₂ in a TCA cycle where these are used in ETC electron transport chain in mitochondria to produce ATP Adenosine tri phosphate the energy unit and H₂O in a oxidative phosphorylation process resulting a cellular respiration

Cell communication and signaling a major factor in cells used to understand on how a cell communicates with another cell through. Cell communication and signaling are done by some series of pathways where the chemical responses and hormonal Messengers plays a vital role like during a neural responses cell uses ion channels

Citation: Mounica M (2020) Short Note on Cell biology. *J Regen Med* 9:2.

as their communication where the outflow and inflow of charged and charged ions travels through membrane pores causing activated responses and nerve impulses helping the cell to respond to pathogens and environment. Receptor tyrosine kinases bind to growth factors uses a protein Tyrosine to cross phosphorylate. Phosphorylated tyrosine act as a protein pad signals the activation of Ras and MAP kinase pathways.

Cell cycle plays a major role in maintaining the cell population and structure. Mitosis and meiosis are two types of cell cycles. Mitosis, where the two daughter cells with same chromosomal content same as parental cell has occurs life long as a growth factor happens in somatic cell division where the skin, muscles and other tissue and skeletal grows. And another Meiosis occurs in a Germ line cells where gametes has been involved like Egg and sperm where the two types of genetic material merges to form a daughter Nuclei Sharing both genes. Every cell controls its number from over populating through some signaling factors and inhibition process. Cells that undergoes over populating producing new cells classified as cancer cells or tumors. To eradicate these cells monitors and destroys the tumor cells with the help of other cells.

*Corresponding author: Mounica Merihelan, Department of Microbiology, Andhra University, India. E-mail: mounicamerihelan@gmail.com

Received: July 10, 2020 Accepted: July 20, 2020 Published: July 27, 2020

Author Affiliations

Department of Microbiology, Andhra University, India

[Top](#)