

Chapter 8

CELL-THE UNIT OF LIFE

Nucleus:

1. It was discovered by Robert Brown in 1831.
2. The material of nucleus stained by basic dyes was given by the chromatin by Flemming.
3. Inter phase nucleus is bound by a double membrane and the space between the two membranes is called as peri – nuclear space.
4. The outer membrane remains continuous with endoplasmic reticulum and also bears ribosomes.
5. At some places due to fusion of two – membranes nuclear pores are formed. These help in the movement of RNA and proteins in bi-directional manner.

Depending upon no of Nuclei:

One	-	Monokaryotic	-	Most cells
Two	-	Dikaryotic	-	Liver cells, muscle fibres
Many	-	Coencytic	-	Rhizopus
Living cells with nucleus	-		-	Nucleated
Living cells without nucleus	-		-	Enucleated

Ex. Mature RBC

Nucleoplasm:

1. Contains nucleolus and chromatin.

2. Content of nucleolus is continuous with rest of cytoplasm.
3. Nucleolus is not a membrane bound structure.
4. It is a site of active rRNA synthesis.
5. Cells which contains more and larger nucleoli are involved in active protein synthesis.
6. Inter phase nucleus has a loose and indistinct network of nucleoprotein fibres called Chromatin.
7. It is made up of DNA, RNA, histone proteins and some non – histone proteins.
8. During cell division, chromatin condenses to form chromosomes.
9. A single human cell has approximately two metres long thread of DNA distributed chromosomes.

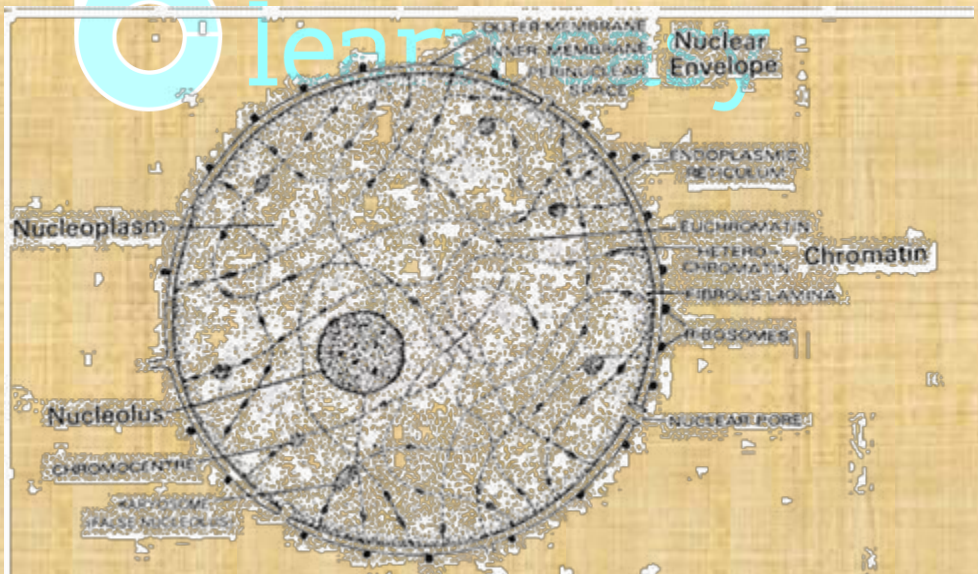


Fig. Structure of Nucleus