Introduction + ER

9th oct 2024

(1) what organism do we use to study cells?
Bacteria → yeast → worm → Drosophila → mice → cultured cell.

(2) General function for organelles.

(3) How do we study cell components ? 1) Microscopy.
2) cell fractionation.

(4) Biochemical composition of plasma membrane
- every organell has different composition
- Bacteria + plant cell don't have cholesterol but contain Sterols.

(5) Composion of plasma membrane → outer : Glycolipid, sphingo, choline.
→ inner : inositol, ethanolamine, serine.

(6) Lipid rafts : membrane regions with cluster of cholesterol + sphingolipids + Protein

(7) Caveolae : subset of lipid rafts, Calredin interact with < cholesterol. cavin.
important in : endocytosis, cell signalling, regulation, protection

(8) Membrane proteins 1) single-integral-protein. 2) multiple..
3) via GPI 4) via fatty acid 5) via (P).
* Types → peripheral.
→ Integral.
→ Lipid-anchored

(9) protein motability restricted by → cytoskeleton.
→ specific domain.
→ specific lipid composition.

(10) Glycocalyx : carbohydrate coat coved by the cell surface.
* function → cell-cell- interaction.
→ protection.
→ barrier.