

TOPIC 2.6 - Membrane Transport

Cells have membranes that allow them to establish and maintain internal environments that are different from their external environments

- Describe the mechanisms that organisms use to maintain solute and water balance
 - Passive transport is the net movement of molecules from high concentration to low concentration without the direct input of metabolic energy.
 - What are the two forms of passive transport?
 - In what direction do molecules diffuse?
 - Passive transport plays a primary role in the import of materials and the export of wastes.
 - What is the difference between facilitated diffusion and diffusion?
 - Why is help from a protein sometimes necessary for diffusion to occur?
 - Active transport requires the direct input of energy to move molecules from regions of low concentration to regions of high concentration.
 - Compare and contrast active transport and facilitated diffusion
 - Give and describe an example of an active transporter?

- Describe the mechanisms that organisms use to transport large molecules across the plasma membrane.
 - The selective permeability of membranes allows for the formation of concentration gradients of solutes across the membrane.
 - Distinguish between molecules that freely diffuse across the membrane, and what kinds need assistance to cross.
 - The processes of endocytosis and exocytosis require energy to move large molecules into and out of cells—
 - In exocytosis, internal vesicles fuse with the plasma membrane and secrete large macromolecules out of the cell.
 - What types of cellular products may be sent outside a cell?
Give an example.
 - In endocytosis, the cell takes in macromolecules and particulate matter by forming new vesicles derived from the plasma membrane.
 - What types of cellular products may be brought into a cell?
Give an example.
 - Draw a diagram of endo/exocytosis occurring in a cell: