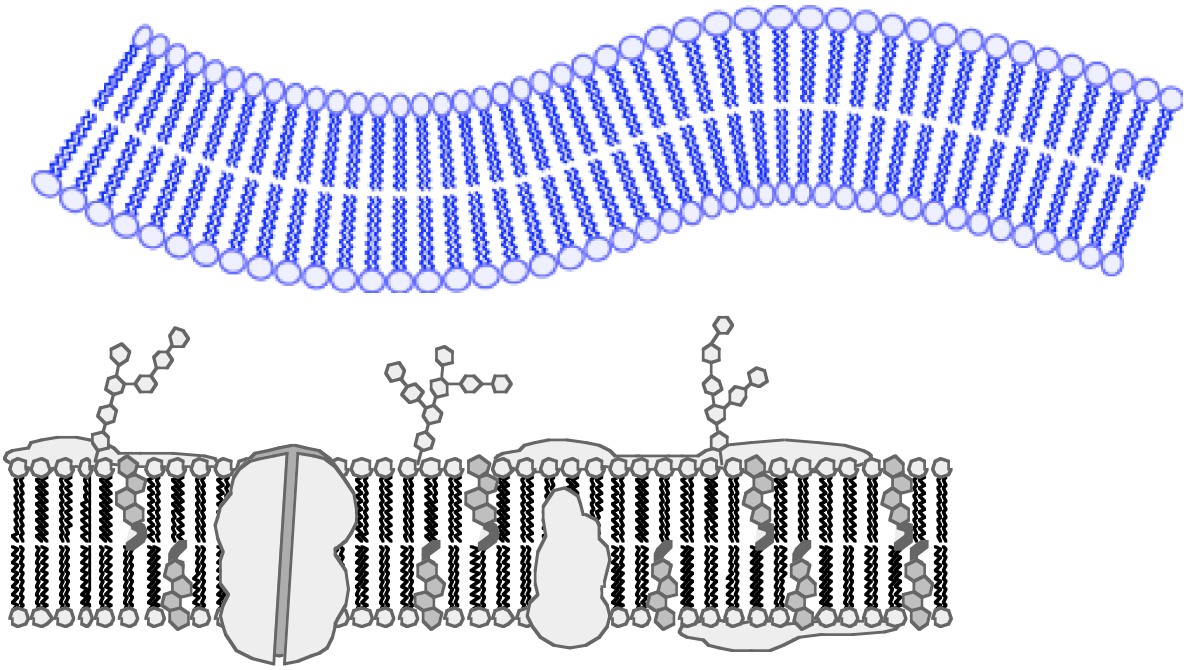
Cell Membrane Structure and Function

Text: Human Biology, by Mader. pp. 46-56; 66 - 76

1. Introduction
    - A. Cells (p. 46)
        - i. Prokaryotic
        - ii. Eukaryotic
2. Plasma (Cell) Membrane (p.48-49)
    - A. Structure
        - i. Phospholipids as the "Building Blocks"
            - a. Hydrophilic
            - b. Hydrophobic
        - ii. Phospholipid Bilayer
            - Hydrophilic
            - Hydrophobic

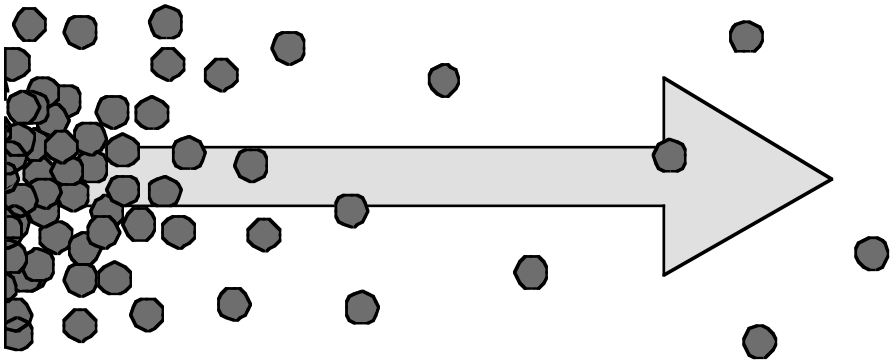


B. Transport Across the Membrane (49 - 50)

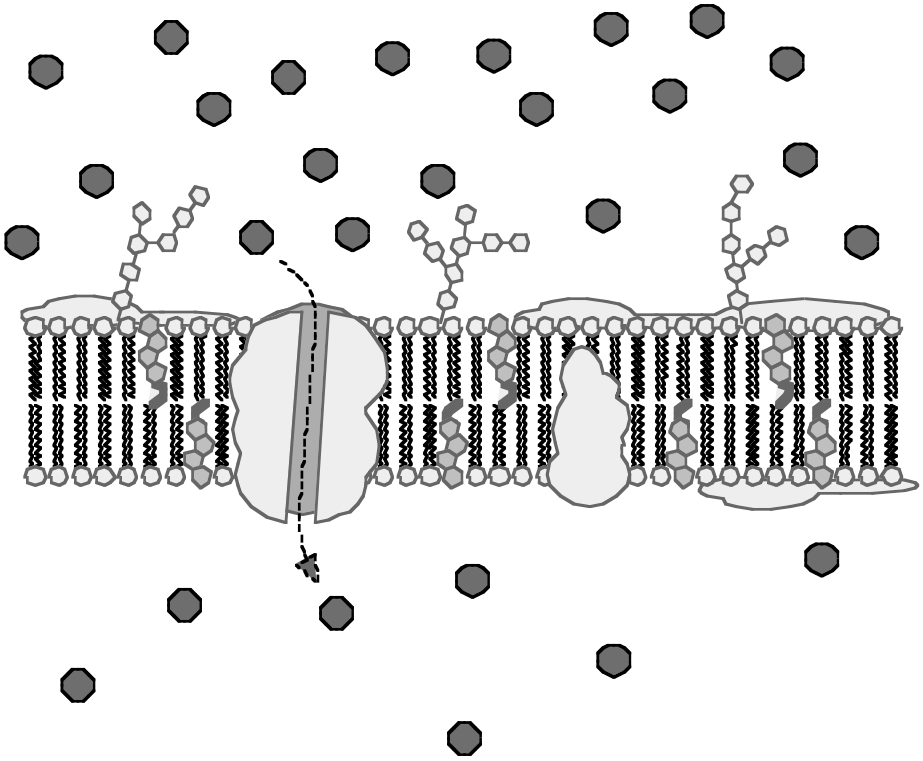
- Selective Permeability

i. Diffusion

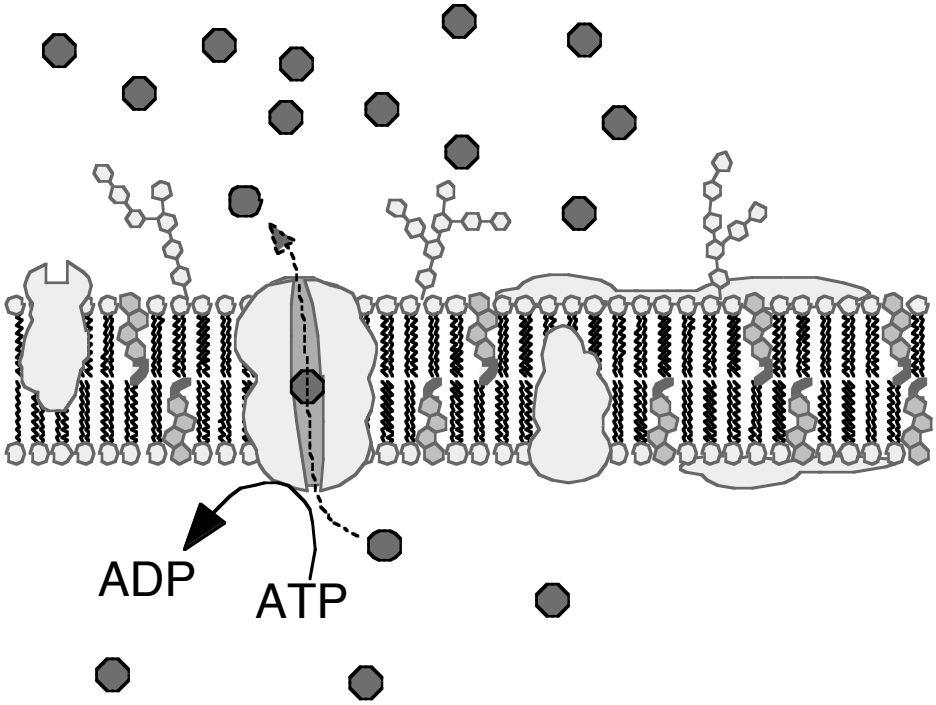
a. Concentration Gradient



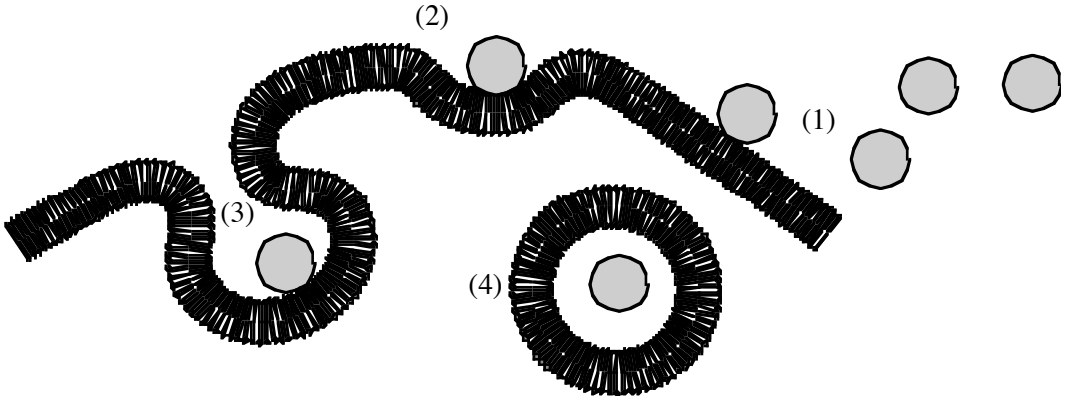
ii. Facilitated Diffusion or Transport



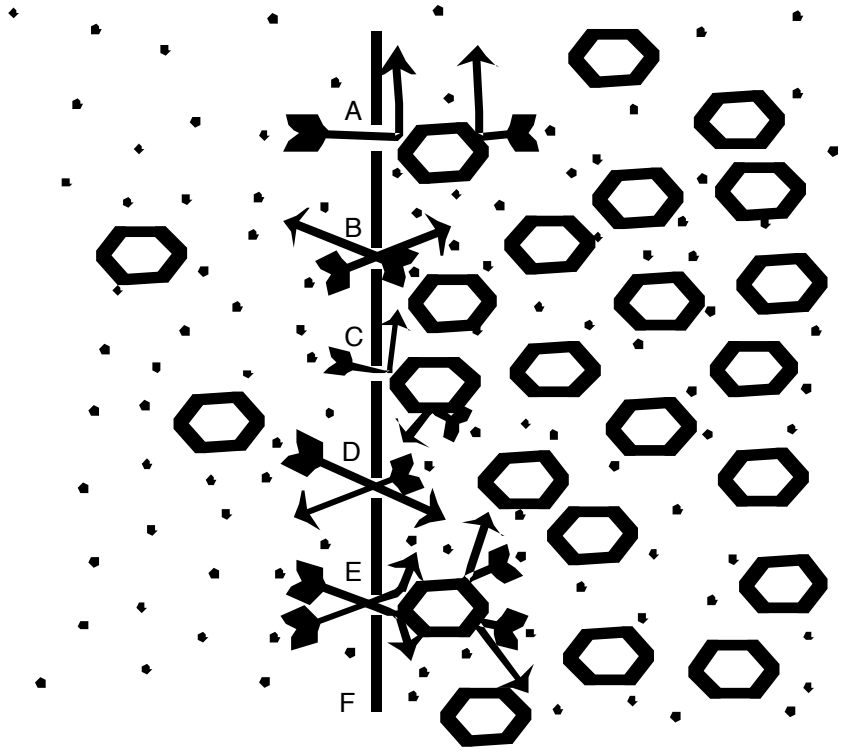
iii. Active Transport

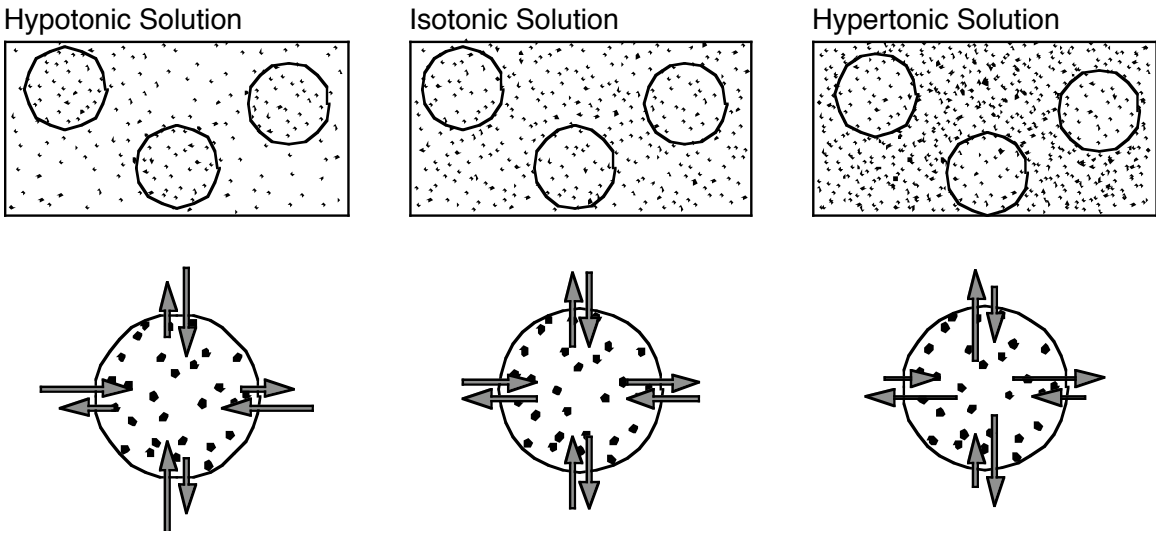


iv. Endocytosis and Exocytosis (p. 51)



v. Osmosis


A
B
C
D
E
F


Hypotonic Solution
Isotonic Solution
Hypertonic Solution

3. Cellular Organelles

A. Nucleus (p. 52)

i. Nuclear Envelope

a. Pores

b. DNA, the Genetic Material

- Chromatin
- Chromosomes

c. Transcription

- Messenger RNA (mRNA)

B. Ribosomes

- Free Ribosomes

e. Translation

C. Endoplasmic Reticulum (ER)

- Cisternae

i. Rough Endoplasmic Reticulum (p. 53)

ii. Smooth Endoplasmic Reticulum

D. Golgi Complex (p. 53)

- Secretory Vesicles
- Transitional Vesicles
- Secretory Granules
- Exocytosis

E. Lysosomes (p. 53)

i. Functions

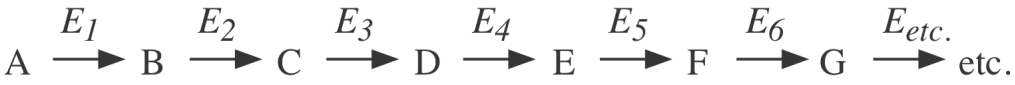
a. Immune Function

b. Autolysis

F. Mitochondria (p. 56)

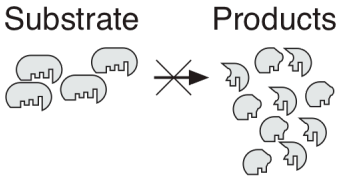
i. Cellular Respiration

a. Enzyme Reactions

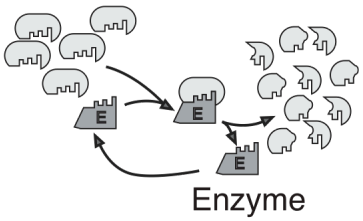


b. Active Site

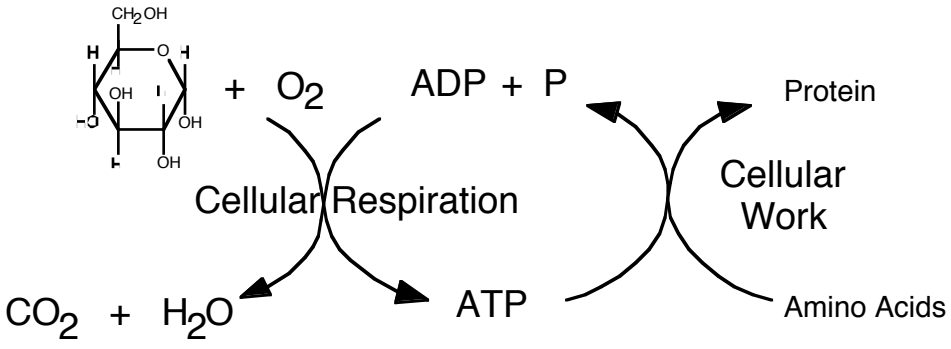
Without Enzyme Present



With Enzyme Present



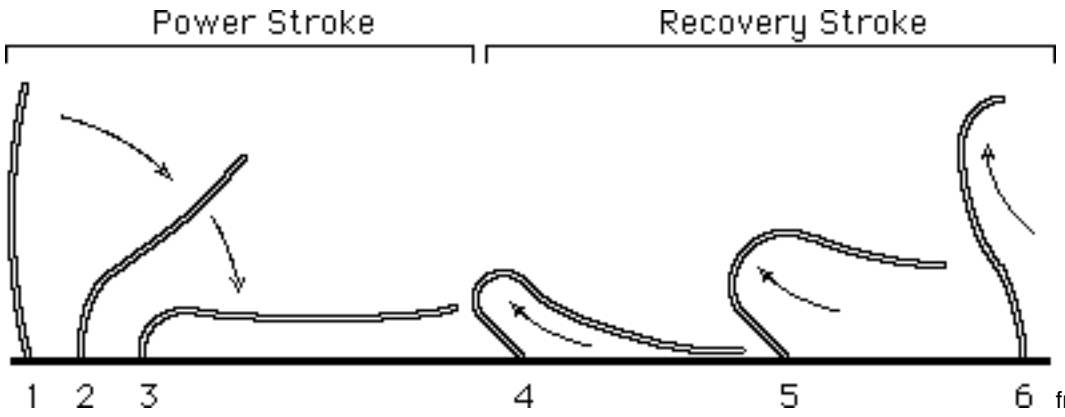
b. Overall Reaction (p. 59)



G. Flagella And Cilia (p. 55)

i. Flagella

ii. Cilia



from Marieb