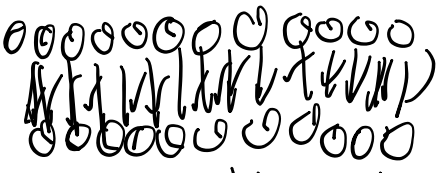
Cell Membrane

Cell Membranes separate the cell's exterior and interior

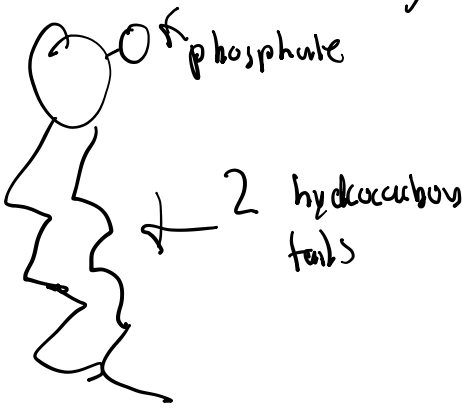
↳ Composed of a lipid bilayer

Phospholipid Bilayer



↳ considered to be amphiphilic → both hydrophilic and hydrophobic

The cell membrane mainly consists of phospholipids



Two types of phospholipids:

#1) **Phosphoglycerides**
↳ use glycerol

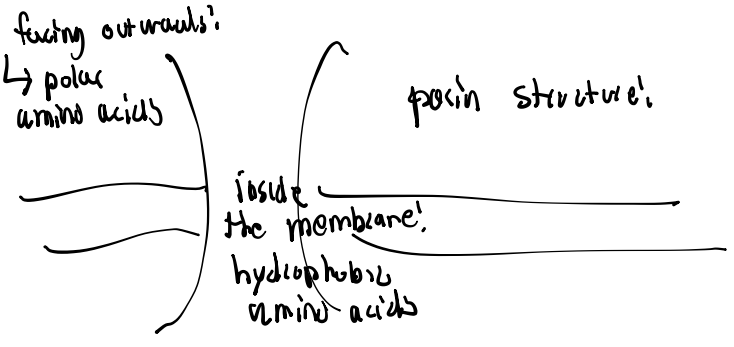
#2) **Sphingolipids**
↳ uses sphingosine in place of glycerol

Cholesterol: Helps maintain cell fluidity (made of 4 Carbon rings)

Lipid Raft: Microdomain regions consisting of sphingolipids, cholesterol, and protein receptors

Transmembrane Protein:

Porin Channels: creates small water-filled channels allowing small hydrophilic molecules to pass through



made of **beta-barrels**, **beta-sheets** that coil into **cylinders**

An example of pain is an aquaporin
↳ made from 6 alpha-helices, which allows for one H_2O molecule to enter at a time

Contains 2 asparagine-proline-alanine motifs, which have a (+) charge that repels ions

Proteins also can move phospholipids around to maintain asymmetry

Flippase: Moves extracellular phospholipids inwards

Floppase: Moves intracellular phospholipids outwards

Scramblase: Moves phospholipids down their gradient