

The structure of phospholipids and their role in membrane structure and function

Introduction:

Phospholipids are a special type of lipid formed by the replacement of one of the three fatty acid molecules with a polar phosphate group. As a result, each molecule has the unusual property of having one end being soluble in water. The phosphate group is hydrophilic ("water-loving") thus causing the head of a phospholipid molecule to be hydrophilic and the two remaining tails, hydrophobic ("water-hating"). Phospholipids form the bilayer which is the basic structure of the cell membrane. Due to the non-polar nature of their tails, it is difficult for polar molecules or ions to pass through them, so they serve as a barrier to most water-soluble substances.

Take a look at the video below to learn more:

https://www.youtube.com/watch?v=g3XniCC9ogk&feature=emb_logo

Test your Mastery

1. Draw a labeled diagrammatic representation of a phospholipid molecule.
2. Explain how the properties of phospholipids are important in the formation of cell membranes