APPLICATION NOTE

High-Concentration Liposome and Micelle suspension measurement

Solubility of Biological Compounds

This paper describes liposomes and micelles with particular attention to particle size measurement of liposomes in either dilute or concentrated aqueous environments.

Lipids as a class, depending on their structure, will dissolve in polar or non-polar organic solvents, but generally this class of compounds is not soluble in water. Water insolubility allows lipids to enter special chemical bonding, which produces structures such as blood lipoproteins, cell membranes, micelles and liposomes (see a phospholipid structure below)

Biological Cell Membranes

Biological tissues are comprised of cells whose contents perform the biochemical reactions that provide living organisms energy, tissue repair, respiration, immunity, etc. Each cell is composed of a number of different functional units called organelles. Each of these provides a locale for specific types of biological reactions. These organelles are housed in a structure called the cell membrane, **Fig. 1**. Below which acts to maintain protection of the organelles, allow a highly controlled environment for chemical reactions, and provide a gate through which all substances must pass into or out of the cell.

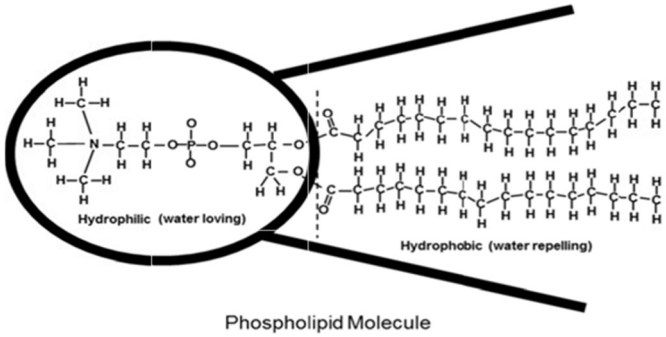

Figure 1. Lipoprotein with tail on right attracted to organic (non-polar) sites. Left side attracted to polar sites.