Lipoproteins

I. Introduction

- Lipoproteins are a family of particles composed of lipid and protein that occur in the lymph and plasma, and include chylomicrons, VLDL (very-low density lipoprotein), LDL, IDL (intermediate density lipoprotein), and HDL, as well as various subfractions. These particles function to emulsify and transport dietary and endogenous lipids, primarily triglycerides (fat) and cholesterol (mostly as cholesterol esters). Thus, these water-insoluble lipids are solubilized in much the same way that detergent emulsifies grease on your dishes. Lipoproteins are basically exotic biological “detergents.”

- Lipoproteins vary in size from chylomicrons (75 - 1200 nm, 1 nm = 10 angstroms) to HDL (5 - 12 nm). They consist of a lipid core surrounded by a phospholipid monolayer (recall that a membrane is a phospholipid bilayer). Additionally, lipoproteins contain proteins, called apoproteins, that enable the various lipoprotein classes to carry out their specialized functions.