Medical Biochemistry Quiz, Discussion Group #8, 10/25/00

1. (1.0 point) Explain the difference between LCAT and ACAT, in terms of function.

   acyltransferase 
   LCAT (lecithin:cholesterol:acyl transferase) \( \rightarrow \) in HDL \( \rightarrow \) take excess cholesterol ester off it in the HDL

2. (1.0 point) Which apolipoprotein activates lipoprotein lipase?

   apo lipoprotein \( \text{CIT} \) from HDL

3. (1.0 point) Why do lipoprotein particles esterify cholesterol?

   it makes cholesterol more hydrophobic thus able to move across membranes more readily

   Questions 4-7 (0.5 point each) are True or False. Indicate the answer by circling the correct answer which precedes the question.

4. True or False: Liver can synthesize triacylglycerol starting with glycerol-3-phosphate or dihydroxyacetone phosphate as the glycerol building block.

5. True or False: LDL is converted to VLDL by the action of lipoprotein lipase.

   \( \times \) True or False: HMG-CoA reductase catalyzes the last step in ketone body formation as well as the committed step of cholesterol biosynthesis.

6. True or False: Removing cholesterol from the tissues, and to lipoprotein particles, is catalyzed by cholesterol ester transfer protein, an essential component of the LDL particle.

   HDL \( \rightarrow \) VLDL \( \rightarrow \) HDL