

Practice Questions Relevant to Lectures 29 and 30 for Exam 3
Answer key on last page

Lectures 29 and 30 – SYNTHESIS OF CHOLESTEROL & STEROIDS/ LIPID TRANSPORT

1. The last key intermediate in cholesterol biosynthesis that is also the first cyclized intermediate is:
 - A. lanosterol.
 - B. an isoprenoid unit.
 - C. mevalonate.
 - D. squalene.
 - E. hydroxymethylglutaryl CoA (HMG CoA).

2. The first 30 carbon intermediate formed in the cholesterol biosynthesis pathway that also is not cyclized and is not the last major intermediate is:
 - A. lanosterol.
 - B. an isoprenoid unit.
 - C. mevalonate.
 - D. squalene.
 - E. hydroxymethylglutaryl CoA (HMG CoA).

3. The lipoprotein containing the greatest percentage of protein is:
 - A. very low density lipoprotein (VLDL).
 - B. high density lipoprotein (HDL).
 - C. chylomicron remnant.
 - D. low density lipoprotein (LDL).
 - E. chylomicron

4. The lipoprotein that delivers dietary cholesterol to the liver is:
 - A. VLDL (very low density lipoproteins) remnants
 - B. chylomicrons.
 - C. LDL (low density lipoproteins)
 - D. HDL (high density lipoproteins)
 - E. chylomicron remnants.

5. Identify four physiological roles of cholesterol.
 - 1.
 - 2.
 - 3.
 - 4.

6. True or False The apoprotein associated with lipoproteins that activates lipoprotein lipase is A1.

7. True or False The apoprotein associated with lipoproteins that allows LDL to enter cells is B100.

8. True or False HMG CoA reductase is feedback inhibited by bile salts (acids).

9. True or False The loss of testosterone leads to osteoporosis in women.
10. Identify the three major enzymes released by the pancreas that aid in digestion of lipids:
- 1.
 - 2.
 - 3.
11. The good form of circulating cholesterol is carried by _____
12. The bad form of circulating cholesterol is carried by _____
13. A defect of 21-hydroxylase in a woman can lead to over production of _____.
14. Are chylomicrons part of the endogenous **OR** the exogenous system of lipid transport? _____
15. Are VLDLs part of the endogenous **OR the** exogenous system of lipid transport? _____

ANSWER KEY

Lectures 29 and 30 – SYNTHESIS OF CHOLESTEROL & STEROIDS/ LIPID TRANSPORT

1. A
2. D
3. B
4. E

5. membrane function
steroid hormone precursor
bile acid (salt) precursor
inhibits HMG CoA reductase

6. False (it is CII)
7. True
8. False (inhibited by cholesterol)
9. False (estrogen)

10. pancreatic lipase, cholesterol esterase or phospholipase A2

11. HDL

12. LDL

13. Androgens

14. Exogenous

15. Endogenous