

Chapter 9 Questions lipids

Book study excersizes 1, 2, 3, 4 and 5. Book questions, 1, 4, 6, 8, 9 and 10

1) Arrange the following fatty acids in an increasing order of melting point:

Oleate
Lingocerate
Stearate
Lignolenate

2) Draw and name the following structures:

C 18:1 cis-⁹; -9

C 18:3 cis, cis, cis-^{9, 12, 15}; -3

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3) Describe how triacylglycerols stored in adipose tissue are released into the blood stream?

4) Explain why aspirin is a potent anti inflammatory agent.

5) Explain the difference in lipid when a trans fatty acid is formed.

6) How important is altering the desaturation in arachadonic acid? What are the possible results of such eating omega 3 fatty acids?

7) The female hormone estrogen has a unique feature that is found in no other steroid hormone. What is this feature?

8) What is the function of diacylglycerol?

9) If you were to incubate phosphatidylinositol with phospholipase D. What would be the most likely product?

Diacylglycerol and inositol phosphate

Phosphatidic acid and inositol

Phosphatidic acid and glycerol

Phosphatidic acid and choline

None of the above

10) T/F Dietary triacylglycerides (TAGs) are transported through the intestinal wall into the lymphatic system unchanged.

11) In fat cells the initial liberation of fatty acid from triacylglycerol is due to

a) phospholipase A

b) triacylglycerolipase

c) hormone sensitive lipase

d) fatty acid-hydrolyase

e) I don't know I have only stored fatty acids never released them

- 12) Aspirin inhibits the formation of:
- Steroid hormones
 - Epinephrine
 - Glucagon
 - Prostaglandins
 - Phosphatidic acid
 - Fatty acids
- 13) The primary storage form of energy in humans is
- The big fat head of your professors (be careful)
 - Glycogen
 - Glucose
 - Protein
 - Triacylglycerol
 - myelin
- 14) T/F cholesterol is decreases the membrane fluidity at low levels
- 15) Which of the following are major physiological functions of free fatty acids
- They stabilize the structure of membranes
 - They serve as precursors of phospholipids and glycolipids
 - They serve as fuel molecules
 - They are precursors of triacylglycerol
 - They are precursors of certain hormones and intracellular messengers
- 16) A very bright scientist from MSU has determined that mammals synthesize fatty acids from acetate. How do you think she figured this one out?

