Practice Quiz Answers : Dr. Balliett : "I am only cranky around my husband."

CARBOHYDRATES

1. Plants
2. CO_2 and H_20, C:H:O, 1:2:1
3. By # of carbons
4. Maltose, sucrose, and lactose
5. Oligosaccharides
6. >10: starch, dextrin, glycogen, Inulin, and cellulose
7. 6: glucose, mannose, and galactose (PyraGGlaMan)
8. 5: Fructose, Ribose
9. 99%
10. #1 carbon, mutorotation
11. Alpha and beta D-glucose
12. Anomeric carbon, alpha, beta
13. Isomere with an OH variation on the 2, 3, or 4^{th} carbon
14. Mannose, Galactose
15. Glucose
16. Ketose
17. Aldose
18. Sucrose, Lactose, Maltose
19. Glucose-Fructose (Alpha 1 → 2 Beta glcosidic bond)
20. Galactose-Glucose (Beta 1 → 4)
21. Glucose-Glucose (Alpha 1 → 4 glycosidic bond)
22. Proteoglycans
23. Glucose, glucosan
24. Cereals, potatoes, and vegetables
25. Amylose and Amylopectin
26. Glycogen
27. Non-branching alpha 1 → 4 bond
28. 2 kinds: non-branching alpha 1 → 4 bond, and branching alpha 1 → 6 bond
29. Liver and muscle, converted into fat
30. Amylopectin
31. Glucose-Glucose beta 1 → 4 bond, in plants
32. Indigestible (bulk) fiber
33. Inulin, fructosan
34. Glycosaminoglycans, disaccharide

35. Amino sugar and uronic acid
36. N-acetyl glucosamine (GlcNAc), and N-acetyl galactosamine (GaINAc)
37. Glucoronate and Iduronate
38. Hyaluronic acid, Chondroitin SO_4, Dermatan SO_4, Heparan SO_4, Heparin, & Keratan SO_4
39. Stereoisomer
40. D-isomer
41. 2^n, where n is the number of chiral carbons
42. Glyceraldehyde, dihydroxyacetone
43. Erythrose
44. Ribose, Ribulose
45. Glucose, Galactose, Mannose, Fructose
46. Neuraminic Acid

LIPIDS & LIPOPROTEINS

47. Lipoproteins
48. Chylomicrons, VLDL, LDL, and HDL : Chylomicrons
49. Apolipoprotein
50. A-apolipoprotein
51. The ligand in receptors
52. Dietary lipids
53. Chyle of lymph system draining the intestines
54. Rapidly clear
55. Does NOT
56. Triacylglycerols from liver to extrahepatic tissue
57. Lipoprotein lipase, walls of blood capillaries
58. LDL formation
59. LDL, B100
60. Cholesterol
61. Fibroblasts lymphocytes, arterial smooth muscle and the liver
62. Coronary atherosclerosis (LDL's enter damage sites and then can build up)
63. Liver, 70%
64. Liver (Apo, e, a) and Intestines (Apo)
65. Reverse cholesterol transport
66. Liver makes discodial HDL → HDL w/ LCAT uptakes Cholesterol and becomes bigger and less dense → hepatic lipase allows chol and chol esters to be released in liver → HDL circulates

67. Free cholesterol, cholesterol esters, HDL core
68. Apolioprotein A1
69. ↓ Triglycerides, ↑ Lipoprotein Lipase activity, ↓artherosclerosis, & estrogen
70. Androgens, estrogens
71. Cholesterol
72. Ketogenic
73. Synthesize and oxidize fatty acids, triglycerides and phospholipids
74. Adipose tissue
75. Regulates level of free fatty acids in the body
76. ↑ blood glucose, ↑ insulin, beta-adrenergic blockers, prostaglandin E, and adenosine
77. Cirrhosis (not enough VLDL vans)
78. High carbohydrate, Triacylglycerol synthesis
79. Make VLDLs
80. Protein, vitamin E, cholin, essential fatty acids, caloric
81. High fat diet or alcoholism
82. Glucose
83. VLDL/Chylomicrons
84. Epinephrine, norepinephrine, thyroid hormone, and cortisol

LIPID CLASSIFICATION

85. Saturated fatty acids
86. 18C, 2 double bonds
87. Triacylglycerols
88. Liquid
89. Fats (fatty acids and glycerol) and waxes (fatty acids and high m.w. alcohol)
90. Esters of fatty acids and alcohol
91. Triacylglycerol
92. Acylglycerols, cholesterol, and cholesterol esters
93. Contains a hydrophilic (polar) and hydrophobic (nonpolar) component
94. Biological membranes
95. Micelles, lipid bilayers, and emulsions
96. Polar head facing aqueous environment, nonpolar tail facing each other on the inside
97. Phospholipids
98. DAG backbone with a PUFA on carbon 2 (polyunsaturated fatty acid)
99. Phosphatidylcholine (lecithin)

100. Ceramide
101. Sphingomyelins
102. Phosphatidylcholine
103. Glycolipids
104. Fatty acid + sphingosine + phosphoric acid
105. Cerebrosides, sulfatides, globosides, and gangliosides
106. Ceramide, sugars
107. Sulfo-galactosyl-ceramide
108. Tay-sachs, Gaucher's, Fabry's, Krabbe's, and Niemann-Pick
109. Phospholipids, sphingolipids, and lipoproteins
110. Even, saturated or unsaturated
111. Cis
112. Raise, lower
113. Essential fatty acid deficiency
114. Partially hydrogenated vegetable oil: solid margarine, cookies, crackers, French fries
115. Saturated, unsaturated
116. Acetic ethane (2), Caprylic octance (8), Palmitic (16), Stearic (18), and Arachidic (20)
117. Position of the double bond from the terminal methyl carbon
118. 9 are non-essential, 6 is consumed regularly, 3 is in few sources and essential
119. Delta 6 desaturase and elongase
120. Scaly skin, eczema
121. Retina, cerebral cortex, testis and sperm
122. Cystic fibrosis, Chron's, cirrhosis, alcoholism, and Reye's syndrome
123. Prostanoids, Leukotrienes, and Lipoxin
124. Prostaglandins, Prostacyclins, and Thromboxanes
125. Prostaglandins (Most tissues), Prostacyclins (Blood Vessel Walls), Thromboxanes (platelets)
126. Prostaglandins
127. Inhibit platelet aggregation
128. Excite vasoconstriction and platelet aggregation
129. Their neighbors via cAMP
130. Leukotrienes
131. Vasoactive and immunoregulatory functions
132. Leukocytes, hypersensitivity reaction
133. Leukocytes, platelets, and macrophages
134. Cyclooxygenase and Lipoxygenase

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135. Prostaglandin H
136. Prostaglandin D,E,F : Tromboxane A : Prostacyclin
137. COX1 and COX2
138. Prostaglandin E
139. Cyclooxgenase + peroxidase
140. Vascular endothelial and Gastric mucosa
141. Macrophages and monocytes
142. Pain, swelling, and smooth muscle contraction
143. NSAID's (aspirin, ibuprofen, indomethacin, and naproxen) : GI tract bleed
144. Vioxx, Celebrex, and Bextra : Stroke
145. Non-competitively, cyclooxgenase enzyme (COX)
146. Competitively, cyclooxygenase, arachidonate
147. Transcription of PGHS-2 and the release of arachidonic acid (PLA-2)
148. WBC and platlets : Leukotrienes and Lipoxins
149. Omega 3 → PG3's
150. Animal fats, peanut oil, corn oil, and the skin of chicken
151. Auto-oxidized PUFA's due to oxygen exposure
152. Cancer, inflammatory diseases, gaining, and atherosclerosis
153. Cause rancidity
154. Initiation, propagation, termination
155. Mitochondrial, Enzyme, and Lipid
156. Vitamin E
157. Superoxide dismutase
158. BHA and BHT
159. Ethanol → Acetaldehyde → Acetate
160. TCA Krebs cycle
161. Excess acetaldehyde
162. Alcohol dehydrogenase (breaks down ethanol)
163. NAD^+
164. No or poor acetaldehyde dehydrogenase production

STUDY THE DIGESTION TABLE IN THE PACKET

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FILL IN THE TABLE BELOW

NAME	# CARBON	# DOUBLE BONDS	OMEGA	FOOD SOURCE
Polmitoleic	16	1	7	
Oliec	18	1	9	Olive Oil
Linoleic	18	2	6	Corn, peanut, soy
Linolenic	18	3	3	Linseed, Flaxseed, Primrose
Arachindonic	20	4	6	Dairy, Beef, Butter, Peanut
Eicosapentaenoic	20	5	3	Fish oils
Docosahexenoic	22	6	3	Fish oils