

- Deficiency of glucose-6-phosphatase leads to GSD type I a
- It is that the use of aspirin and other salicylates after a viral infection trigger Reye's syndrome
- The most known mutation of HFE is C282Y
- Wilson disease is caused by mutation in ATP73 gene
- In glycogen storage disease type II the glycogen is abnormal

- **56. Bile acid and bile salts, choose the wrong statement ?**
- A- Primary bile acids are steroids consisting of 24 C atoms carrying one carbonyl group and several hydroxyl groups
- B- In bile acid the arrangement of A and B rings is in cis form
- C- The cholic acid conjugates with glycine to form lithocholic acid
- D- Bile salts are more amphipathic than the primary bile acids
- E- Taurochenodeoxycholic acid is a bile salt

• **51. A – amylase, choose the wrong statement ?**

- A . is an endoglucosidase
- B . secreted by mouth and pancreas
- C . is not functional in high acidic medium like stomach
- D . hydrolyze all α -1,4 glycosidic bonds
- E . has no activity toward the α -1,6 bond

- **45. Choose the wrong statement of the following?**
- A . if triacylglycerols directly entered the blood they would coalesce impeding blood flow
- B . only essential fatty acids are required in our diet
- C . the major enzyme that digests dietary triacylglycerols is pancreatic lipase
- D . bicarbonate raises the PH of the contents of the intestinal lumen
- . E pancreatic lipase hydrolyzes triacylglycerols producing free fatty acids and free glycerol

19. Which of the following is found in milk?

a. beta-1,4 - glucose - glucose

B. Alpha -1,4 glucose, galactose

C. beta-1,6 glucose, glucose

D. beta 1,4, glucose, galactose

C. Alpha 1,4 glucose, glucose

78) Hemochromatosis, choose the wrong statement?

Select one:

- A) a. Resulted from mutations to gene HFE
- B) b. Our body has no natural way to rid itself of the excess iron
- C) c. Transferrin saturation values greater than 45 percent are considered too high
- D) Patients who inherit one defective gene are normal and have normal

69) Pancreatic secretion in carbohydrates digestion, choose the wrong statement?

Select one:

- A) Pancreatic alpha-amylase hydrolyze the starches and glycogen
- B) Secrets approximately 1.5 L,/day that enter the duodenum
- C) Alpha-amylase is an endo-glucosidase
- D) Bicarbonate neutralizes the acidic pH of stomach contents
- E) Pancreatic alpha-amylase hydrolyze all alpha-1, 4 bonds

5) Choose the wrong statement?

Select one:

- A) Esterases produced by pancreas function to remove fatty acids from compounds such as cholesterol esters
- B) Bile salts are more effective detergents than bile acids because of their enhanced amphipathic nature
- C) Fats digestion enzymes are produced in mouth, stomach and pancreas
- D) Bicarbonate secretion is stimulated by the hormone secretin
- E) Deoxycholic acid has a hydroxyl group at position 7 and 12

18. After digestion of a piece of cake that contains flour, milk and sucrose, the fastest sugar that enters the blood is?

- a. Glucose
- b. Fructose
- c. Galactose
- d. Mannose
- e. Isomaltose

26. Dietary fibers choose the wrong answer?

- a. They consists principally of oligosaccharides and polysaccharide derivatives and lignan..
- b. They are resistant to digestion by human digestive enzymes
- c. Water insoluble fiber includes cellulose. Lignin and hemicellulose
- d. Pectins slow the rate of absorption of simple sugars
- e. Pectins may lower blood cholesterol levels by binding bile acids

64) Choose the incorrect statement?

Select one

- A) Deficiency of glucose-6-phosphatase leads to GSD type I a
- B) It is that the use of aspirin and other salicylates after a viral infection trigger Reye's syndrome
- C) The most known mutation of HFE is C282Y
- D) Wilson disease is caused by mutation in ATP73 gene
- E) In glycogen storage disease type II the glycogen is abnormal

22) In cytochrome P450 reactions for drugs detoxification, choose the incorrect statements?

Select one:

- A) CYP450 reaction converts hydrophobic substrate to hydrophilic substrate
- B) When O_2 accepts one electron it become superoxide a reactive oxygen species
- C) O_2 splits so one oxygen atom binds with $2H$ to form water and the other oxygen binds to the hydrophobic substrate
- D) NADPH donate one electron to ferric thus is converted to ferrous
- E) Fe (III) can't bind O_2

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31) Glucoamylase, choose the incorrect statement?

Select one:

- A) Is an exoglucosidase
- B) Cleaves all alpha—1,4 bonds in disaccharides
- C) Its two catalytic sites have similar activities
- D) Is heavily glycosylated with oligosaccharides to protect it from digestive proteases
- E) Has two catalytic sites

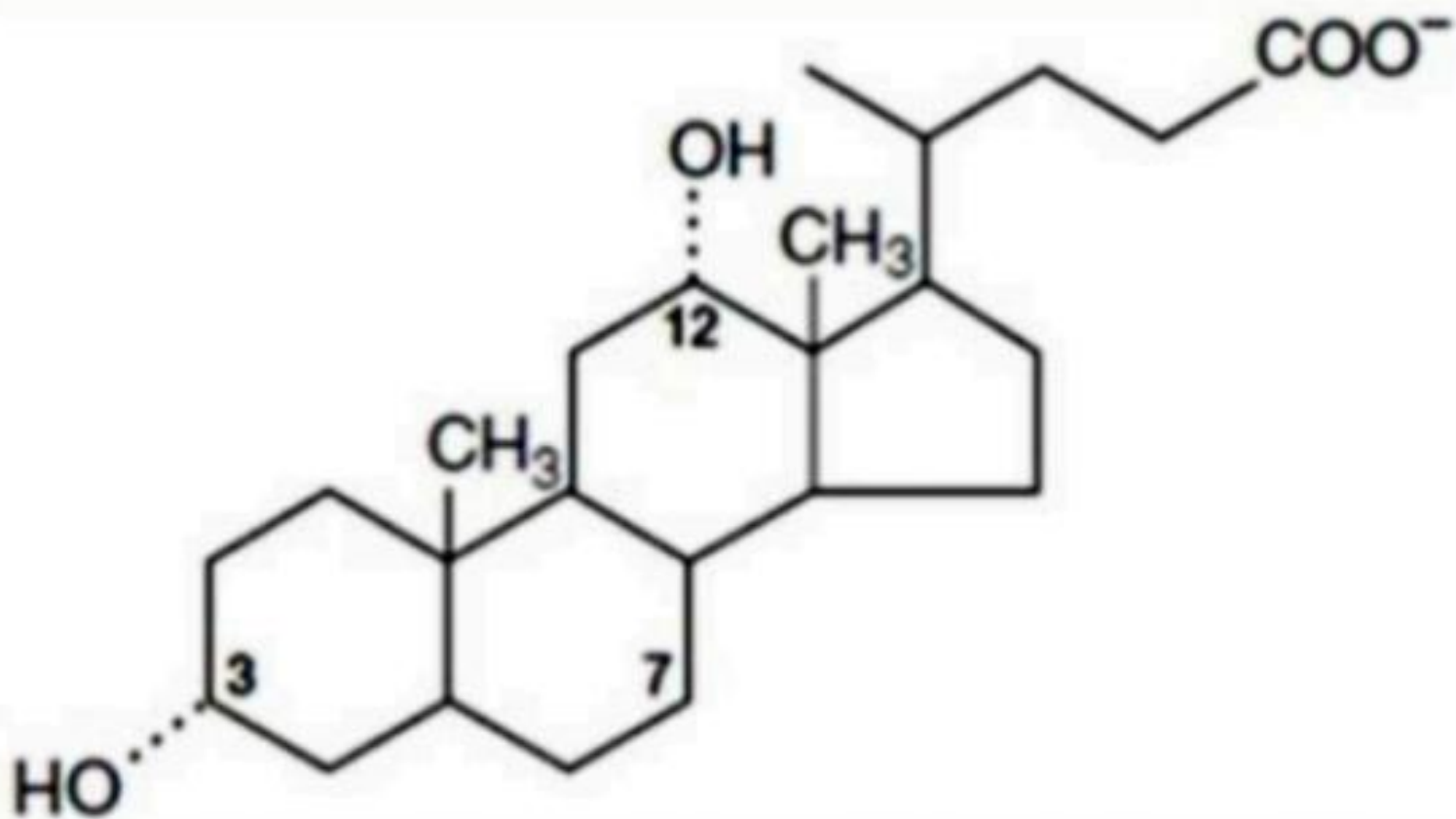
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- A) Tyrosine becomes essential amino acid if phenylalanine intake is inadequate
 - B) The trypsinogen is activated by enteropeptidase to trypsin
 - C) Secretin stimulates the secretion of bicarbonate which raises the PH.
 - D) Chymotrypsinogen is converted to active form chymotrypsin when

5. Reye syndrome, choose the incorrect statement?

- a. Is extremely rare genetic disease that can affect the brain and liver
- b. Occurs most commonly in kids between 4 and 14 years old
- c. There is no cure for Reye syndrome
- d. involve mitochondrial dysfunction that inhibits oxidative phosphorylation

43. Which of the following statements is not correct?

- a. Glucoamylase is an exoglucosidase
- b. Glucose is an essential sugar and must be present in our food •••
- c. Trehalase has one catalytic site
- d. B-glycosidase has two catalytic sites



Choose the WRONG statement regarding the structure shown.

Select one:

- a. It has 24 carbon atoms.
- b. It is a secondary bile acid.
- c. Its created from primary bile acids cholic acid.
- d. Its bile salts are glycocholic and taurocholic.
- e. Mostly will be excreted in the feces.

(E)

5. All the following are correct about (Von Gierks disease) EXCEPT:

- a. normal in structure but present in abnormally
- b. Deficiency of Alpha 1,4 phosphatase
- c. deficiency of liver Glucose 6- phosphatase

Answer: B

6. phospholipase A2?

- a. remove fatty acids from compounds
- b. digests dietary triacylglycerols producing 2 free fatty acids and 2-monoacylglycerol
- c. Digests phospholipids to free fatty acid and a Lysphospholipid

Answer: C

Which amino acids are deleted from chymotrypsinogen to form chymotrypsin?

Select one:

- a. Serine15 - Arginine16 and Threonine147- Asparagine148.
- b. Arginine15 - Isolleucine, Threonine147 Asparagine148.
- C. Tyrosine14 - Arginine15 and Serine147 Asparagine148.
- d. Serine 14- Arginine15 and Threonine147 Asparagine148.
- e. Asparagine15- Serine16 and Tyrosine144 - Arginine 149.

(D)

Hemochromatosis, choose the WRONG statement?

Select one:

- a. People with hemochromatosis absorb up to 30 percent of iron.
- b. Transferrin saturation values greater than 45 percent are considered too high.
- c. Caused by defect in the gene *ATP7B*.
- d. Over time, hemochromatosis patients absorb and retain between 5 to 20 times more iron than the body needs.
- e. Ferritin is an intracellular protein that stores and releases iron.

All of the followings are true regarding protein digestion EXCEPT?

Select one:

- a. Both trypsin and chymotrypsin split protein into small polypeptides.
- b. Carboxypolypeptidase cleaves individual amino acids from the carboxyl end of polypeptides.
- c. Pepsin initiates the process of protein digestion.
- d. Most proteins are digested all the way to amino acid by pancreatic juice.
- e. Most of protein remains as dipeptides and tripeptides that are easily transported through the microvillar membrane.

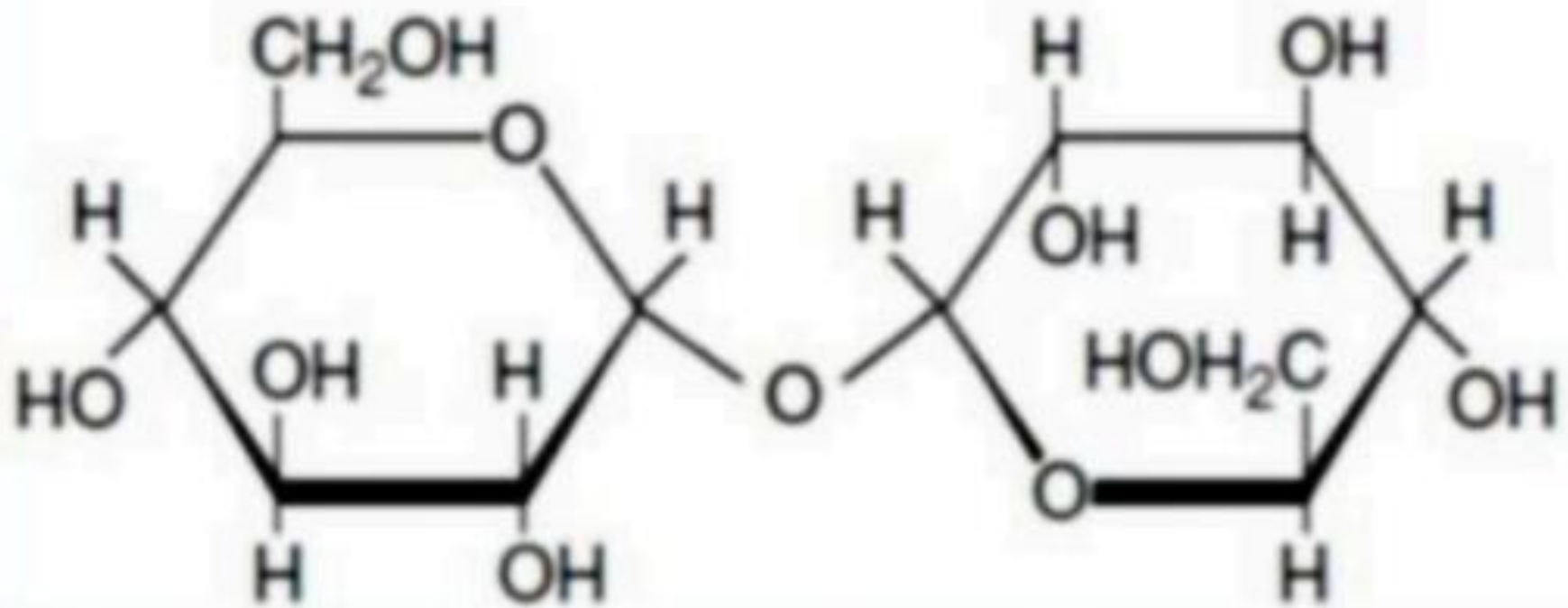
(D)

2. The secondary bile salt that is excreted by feces

Lithocolic acid

3. One of the following is true about enteropeptidase

It cleaves the protein inside the chain not outside



Which of the following enzymes digest the disaccharide shown?

Select one:

a. Sucrase-maltase.

7. Fat digestion, choose the wrong statement?

- a. Lingual lipase hydrolyze short- and medium-chain fatty acids in triacylglycerols
- b. The pancreas produces esterases that remove fatty acids from compounds like cholesterol esters
- c. Chylomicrons are synthesized in the liver and transport lipids in blood to adipose tissue, heart, and skeletal muscles...
- d. Pancreatic lipase is the major enzyme that digests dietary triacylglycerols
- e. The essential fatty acids alpha-linolenic and alpha linolenic acid are supplied by dietary plant oils

1. Which enzyme is secreted actively

Amylase