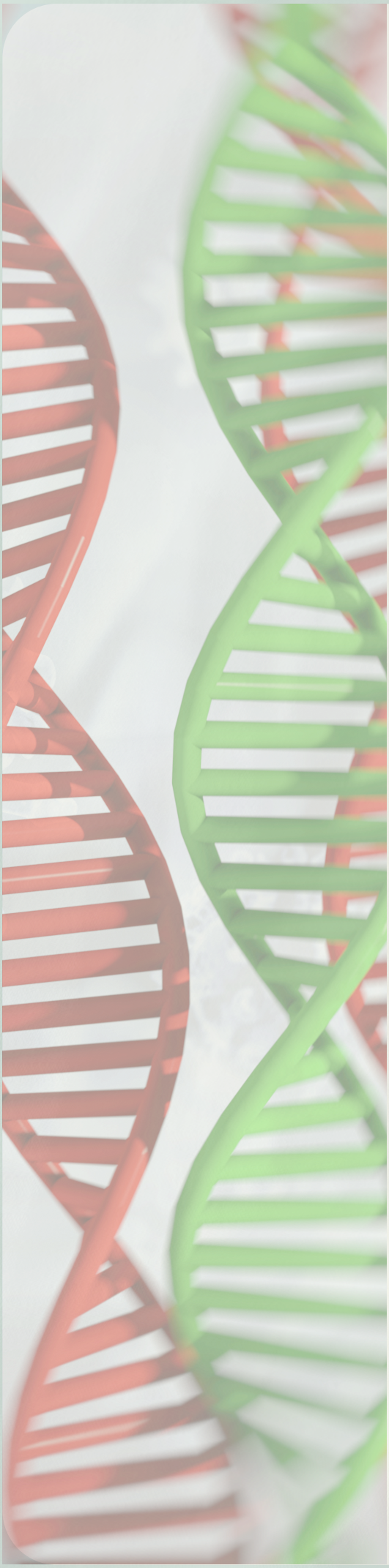

QUIZ TIME

Bio-chemistry

Lec 20

لجنة طب الأسنان

1-During digestion of triglycerides, emulsification refers to:

a) Hydrolysis of triglycerides into glycerol and fatty acids by lipase
b) Breakdown of large fat globules into smaller droplets to increase surface area for enzyme action
c) Transport of digested lipids into lymph via chylomicrons
d) Absorption of monoglycerides and fatty acids into intestinal mucosa

Ans:b

2-Which of the following statements about pancreatic lipase is correct?

a) It acts best at acidic pH and hydrolyzes all ester bonds of triglycerides
b) It is secreted in gastric juice and activated only by HCl
c) It requires bile salts, calcium, and colipase for activation and acts optimally at alkaline pH
d) It produces 3 free fatty acids and glycerol from triglycerides

Ans:c

3-Regarding the fate of β-monoglycerides (β-MAG) during triglyceride digestion, which of the following is correct?

a) 100% of β-MAG are hydrolyzed by pancreatic lipase into glycerol and fatty acids
b) About 72% of β-MAG are absorbed directly with the help of bile salts, while 28% are converted into α-MAG
c) β-MAG are absorbed only after conversion into α-MAG
d) None of the β-MAG are absorbed as such in the intestine

Ans:B

4-Which of the following best describes the action of intestinal lipase?

a) It emulsifies large fat globules in the intestine
b) It hydrolyzes triglycerides in the lumen into β-monoglycerides
c) It acts within intestinal mucosal cells to hydrolyze absorbed α-monoglycerides into glycerol and free fatty acids
d) It transports fatty acids into lymph as chylomicrons

Ans:C

5-Cholesterol esters are digested in the intestinal lumen by which enzyme, and what are the main products?

a) Pancreatic lipase → glycerol + free fatty acids
b) Cholesterol esterase → free cholesterol + fatty acids
c) Intestinal lipase → α-monoglycerides + fatty acids
d) Bile salts → free cholesterol + monoglycerides

Ans:b

6-How do bile salts facilitate lipid absorption in the intestine?

a) They hydrolyze triglycerides into glycerol and fatty acids
b) They form water-soluble micelles that transport lipids into intestinal villi for further digestion
c) They convert β-monoglycerides into α-monoglycerides
d) They directly enter the bloodstream with lipids without recycling

Ans:b

7-Which of the following sequences correctly describes the fate of absorbed lipids in intestinal mucosal cells?

a) Fatty acids → β-MAG → form chylomicrons → lymph → systemic circulation
b) Fatty acids activated to acyl-CoA → bind to β-MAG, cholesterol, or lysophospholipids → reform TGs, cholesterol esters, and phospholipids → combine with apolipoprotein B48 → form chylomicrons → lymph → systemic circulation
c) TGs directly absorbed → enter bloodstream without modification
d) Cholesterol esters hydrolyzed to free cholesterol → secreted in bile without entering circulation

Ans:b

8-Which of the following statements about lingual lipase is correct?

a) It is secreted by the pancreas and is the main enzyme for TG digestion
b) It is secreted from the dorsal surface of the tongue and has minimal significance
c) It acts in the intestine to hydrolyze α-monoglycerides
d) It forms chylomicrons in the mucosal cells

Ans:b