



QUIZ TIME

Bio- chemistry

Lec23

Done by:

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1. Which of the following is a primary ketone body?
- A. Acetone
 - B. Acetoacetic acid
 - C. β -Hydroxybutyric acid
 - D. Pyruvate

Answer: B. Acetoacetic acid

2. Where does ketogenesis occur?
- A. Cytoplasm of liver cells
 - B. Mitochondria of extrahepatic tissues
 - C. Mitochondria of liver cells
 - D. Peroxisomes of adipose tissue

Answer: C. Mitochondria of liver cells

3. What is the source of acetyl-CoA for ketogenesis?
- A. Glycolysis
 - B. Krebs cycle
 - C. β -oxidation of fatty acids
 - D. Protein catabolism

Answer: C. β -oxidation of fatty acids

4. Which enzyme catalyzes the formation of HMG-CoA during ketogenesis?
- A. Thiolase
 - B. HMG-CoA lyase
 - C. HMG-CoA synthase
 - D. Succinyl-CoA synthetase

Answer: C. HMG-CoA synthase

5. Why can't the liver utilize ketone bodies?
- A. It lacks mitochondria
 - B. It lacks thiophorase (thiokinase)
 - C. It lacks HMG-CoA synthase
 - D. It lacks NAD^+

Answer: B. It lacks thiophorase (thiokinase)

6. Which ketone body is excreted via the lungs and gives breath a fruity odor?
- A. Acetoacetic acid
 - B. β -Hydroxybutyric acid
 - C. Acetone
 - D. Succinyl-CoA

Answer: C. Acetone

7. What condition is characterized by excessive ketone bodies in blood and urine?
- A. Glycosuria
 - B. Ketosis
 - C. Acidosis
 - D. Hyperlipidemia

Answer: B. Ketosis

8. Which of the following promotes ketogenesis?
- A. High carbohydrate intake
 - B. Saturation of the citric acid cycle
 - C. Increased insulin levels
 - D. Elevated oxaloacetate

Answer: B. Saturation of the citric acid cycle

9. What is the role of ketolysis in extrahepatic tissues?
- A. Synthesis of ketone bodies
 - B. Conversion of glucose to glycogen
 - C. Oxidation of ketone bodies for energy
 - D. Storage of fatty acids

Answer: C. Oxidation of ketone bodies for energy

10. Which enzyme converts β -hydroxybutyrate to acetoacetate during ketolysis?
- A. Thiolase
 - B. NADH dehydrogenase
 - C. β -Hydroxybutyrate dehydrogenase
 - D. HMG-CoA lyase

Answer: C. β -Hydroxybutyrate dehydrogenase

