QUIZ # 1-BCH3120 Jan 16, 2017

NAME:_____ STUDENT #:_____

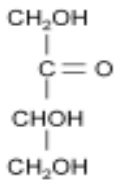
Circle one answer per question - You have 10 min to answer 10 questions

1. The main precursors of the synthesis of macromolecules are:

A) Acetyl-CoA, phosphoenolpyruvate and citrate
B) Acetyl-CoA, pyruvate and glucose-6-phosphate
C) Pyruvate, intermediates of the Krebs cycle and acyl-CoAs
D) Acetyl-CoA, pyruvate and intermediates of the Krebs cycle

2. Is the molecule shown opposite a:

A) Aldotetrosis
B) Ketotetrose
C) Ketotriosis
D) Ketohexose



3. Which of these statements is true?

A) The difference between a synthase and a synthetase is that the synthase requires the input of the energy contained in the ATP
B) A kinase transfers a phosphate group from another molecule (eg, ATP)
C) A carboxylase adds a carbonyl group
D) Lyase catalyses the breakdown of a bond by hydrolysis

4. Which of these statements is true?

A) The body's ATP reserves provide energy for several hours
B) The creatine phosphate reserves of our body can supply energy for many minutes
C) The three main sources of high-energy phosphate are glycolysis, gluconeogenesis and beta-oxidation
D) The three main sources of high energy phosphate come from glycolysis, the Krebs cycle and phosphorylating oxidations

5. With regard to glycolysis, which of these statements is true:

A) The investment phase consumes 2 ATP per molecule of glucose entering the glycolysis
B) The return on investment phase consumes 4 ATP per molecule of glucose entering the glycolysis
C) The net yield of anaerobic glycolysis is 4 ATP per molecule of glucose
D) Glucose is ultimately transformed into pyruvate, which can only be reduced to lactate

6. Which of these statements is true:

A) The hexokinase is almost always active because its Km is low
B) Glucokinase has a higher Km than hexokinase
C) The affinity of glucokinase for glucose is lower than the affinity of the hexokinase
D) All the above answers are true
E) None of the answers are true

7. In muscle, the 3 enzymes limiting glycolysis are:

A) Glucokinase, phosphoglycerate kinase and pyruvate kinase
B) Glucokinase, phosphofructokinase and pyruvate kinase
C) Hexokinase, phosphofructokinase and aldolase
D) Hexokinase, phosphofructokinase and pyruvate kinase

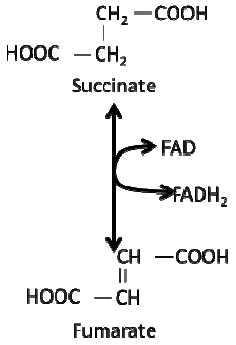
8. Pyruvate kinase:

A) Catalyzes the transfer of the phosphate group from phosphoenolpyruvate to an ADP, producing ATP and pyruvate
B) Is inactive when phosphorylated
C) is inhibited allosterically by acetyl-CoA and ATP
D) All these statements are true
E) None of these statements is true

9. The 2 reactions of glycolysis that produce ATP:

A) Are catalysed by kinases
B) Are the only two irreversible reactions of glycolysis
C) Are the only two rate limiting reactions of glycolysis

10. In the Krebs cycle, what is called the enzyme catalyzing this reaction:



A) Succinate Synthetase
B) Succinate carboxylase
C) Succinate dehydrogenase
D) Succinate isomerase