

Endo - metabolism

Archive

Lecture 4+5

Glycolysis I + II

Done by :

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metabolism-lecture (4+5)

1) Most regulatory and rate limiting step in glycolysis mediated by:

- A. Hexokinase.
- B. Pyruvate kinase.
- C. PFK-1.
- D. PFK-2

Answer: C

2) The enzyme that allosterically inhibited by accumulation of its own product is:

- A. Hexokinase.
- B. Glucokinase.
- C. PFK-1.
- D. Pyruvate kinase.
- E. PFK-2.

Answer: A

3) All of the following are link between carbohydrate and fatty acid except:

- A. DHAP.
- B. GAP.
- C. Acetyl CoA.
- D. Phosphoenolpyruvate

Answer: D

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4) All of the following are high energy molecules except:

- A. NADH.
- B. FADH₂.
- C. Dihydroxyacetone phosphate.
- D. 1-3 bisphosphoglycerate.
- E. Phosphoenolpyruvate.

Answer: C

5) During gluconeogenesis, the conversion of glucose 6-P to glucose is catalyzed by glucose-6-phosphatase. Which of the following statement is true about this reaction?

- A. The reaction occurs in mitochondria
- B. Abnormal glycogen accumulation in liver is a result of this enzyme deficiency
- C. Conversion of glucose 6-phosphate to glucose releases a molecule of ATP
- D. It is a highly active enzyme in skeletal muscles
- E. It can be reversed also by hexokinase and/or glucokinase

Answer: E

6) Super high energy molecules stored energy in which of the following:

- A. bond
- B. electrons
- C. atoms

Answer: A

7) glycolysis has as the rate limiting enzyme, which is inhibited by

Answer: PFK-1, Citrate

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8) About hexokinase IV, all of the following are true, except:

- A. has high K_m value and low affinity
- B. expressed in pancreas and liver
- C. add phosphate at carbon 1

Answer: C

9) in glucogenolysis and glucogenesis the enzyme used in both is ?

- A. Phosphoglucomutase
- B. Pyruvate kinase

Answer: A

10) carbohydrate and fat metabolism linked by ?

- A. DHAP
- B. 1,3 Bisphosphoglycerate

Answer: A

11) Energy rich molecule?

- A. NADH/FADH₂
- B. phosphoenolpyruvate
- C. 1,3bisphosphoglycerate
- D. 1,3disphosphoglycerate

Answer: A

12) The enzyme that is inhibited by fluoride?

- A. Fumarase
- B. Enolase
- C. malate dehydrogenase
- D. pyruvate kinase

Answer: B

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- 13) The following reaction or step is reversible? Select one:
- A. Acetyl CoA formation reaction
 - B. Formation of pyruvate from phosphoenolpyruvate
 - C. Phosphorylation of fructose-6-phosphate to fructose 1,6 biphosphate
 - D. Cleavage of fructose 1,6 biphosphate by aldolase enzyme
 - E. Phosphorylation of glucose to glucose-6-phosphate

Answer: D