

Glycolysis Quiz PDF

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Explain the significance of glycolysis in cellular metabolism.

Describe the energy investment phase of glycolysis and its importance.

Which of the following are true about glycolysis? (Select all that apply)

- It is an anaerobic process.
- It occurs in the mitochondria.
- It produces NADH.
- It is the first step in cellular respiration.

How is glycolysis regulated by feedback inhibition? Provide examples of molecules involved.

Compare and contrast glycolysis under aerobic and anaerobic conditions.

Discuss the role of phosphofructokinase in glycolysis and how it is regulated.

Which enzyme catalyzes the first step of glycolysis?

- Phosphofructokinase
- Pyruvate kinase
- Aldolase
- Hexokinase

In which conditions does glycolysis occur? (Select all that apply)

- Aerobic
- Anaerobic
- High oxygen
- Low oxygen

Glycolysis is an example of which type of metabolic pathway?

- Anabolic
- Amphibolic
- Reductive
- Catabolic

Which enzymes are involved in the regulation of glycolysis? (Select all that apply)

- Hexokinase
- Phosphofructokinase
- Glucose-6-phosphatase
- Pyruvate kinase

Which of the following is a key regulatory enzyme in glycolysis?

- Lactate dehydrogenase
- Citrate synthase
- ATP synthase
- Phosphofructokinase

Explain how glycolysis can continue in the absence of oxygen and the implications for muscle cells during intense exercise.

Which of the following steps in glycolysis involve substrate-level phosphorylation? (Select all that apply)

- Conversion of glucose to glucose-6-phosphate
- Conversion of 1,3-bisphosphoglycerate to 3-phosphoglycerate
- Conversion of fructose-6-phosphate to fructose-1,6-bisphosphate
- Conversion of phosphoenolpyruvate to pyruvate

Which molecule is the final product of glycolysis?

- Acetyl-CoA
- Lactate
- Ethanol
- Pyruvate

Where in the cell does glycolysis occur?

- Nucleus
- Cytoplasm
- Endoplasmic reticulum
- mitochondria

Which of the following is NOT a product of glycolysis?

- NADH
- ATP
- Pyruvate
- CO₂

What is the net gain of ATP molecules per glucose molecule in glycolysis?

- 1 ATP
- 4 ATP
- 6 ATP
- 2 ATP

Which molecules can inhibit the glycolytic pathway? (Select all that apply)

- ATP
- ADP
- AMP
- Citrate

Which of the following are products of glycolysis? (Select all that apply)

- ATP
- FADH₂
- Pyruvate

NADH

What is the primary function of glycolysis?

- To convert glucose into carbon dioxide
- To convert glucose into pyruvate
- To generate oxygen
- To produce glucose from pyruvate