

Mastering Biology Chapter 9 Quiz 1 | with complete solution | updated 2024

Substrate-level phosphorylation accounts for approximately what percentage of the ATP formed by the reactions of glycolysis?

- a. 0%
- b. 100%
- c. 38%
- d. 10%
- e. 2% - b. 100%

During glycolysis, when each molecule of glucose is catabolized to two molecules of pyruvate, most of the potential energy contained in glucose is

- a. stored in the NADH produced.
- b. used to phosphorylate fructose to form fructose 6-phosphate.
- c. retained in the two pyruvates.
- d. transferred directly to ATP.
- e. transferred to ADP, forming ATP. - c. retained in the two pyruvates.

In addition to ATP, what are the end products of glycolysis?

- a. NADH and pyruvate
- b. CO₂ and pyruvate
- c. CO₂ and NADH
- d. CO₂ and H₂O
- e. H₂O, FADH₂, and citrate - a. NADH and pyruvate

Starting with one molecule of glucose, the energy-containing products of glycolysis are

- a. 6 CO₂, 2 pyruvate, and 2 ATP.
- b. 6 CO₂, 2 pyruvate, and 30 ATP.
- c. 2 FADH₂, 2 pyruvate, and 4 ATP.
- d. 2 NADH, 2 pyruvate, and 2 ATP.
- e. 2 NAD⁺, 2 pyruvate, and 2 ATP. - d. 2 NADH, 2 pyruvate, and 2 ATP.

Which kind of metabolic poison would most directly interfere with glycolysis?

- a. an agent that closely mimics the structure of glucose but is not metabolized
- b. an agent that blocks the passage of electrons along the electron transport chain
- c. an agent that reacts with oxygen and depletes its concentration in the cell
- d. an agent that binds to pyruvate and inactivates it
- e. an agent that reacts with NADH and oxidizes it to NAD⁺ - a. an agent that closely mimics the structure of glucose but is not metabolized

A glucose molecule is completely broken down to carbon dioxide and water in glycolysis and the citric acid cycle, but together these two processes yield only a few molecules of

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Sebastian Brünink



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