


Bio 115 Cells & Evolution of Life

Energy Conservation

Glycolysis



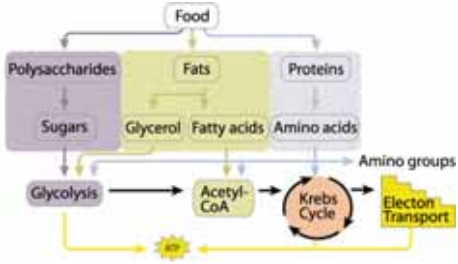
University of Idaho

Start Audio Lecture!

1

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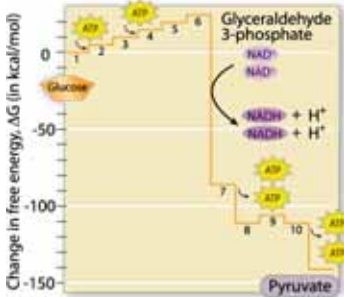
Metabolic pathways



2

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Energy production in glycolysis



Change in free energy, ΔG (in kcal/mol)

For each glucose:
 2 Pyruvate
 2 NADH + 2 H⁺
 2 ATP
 are produced.

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Navigating enzyme names

“-ase” = enzyme

Isomer – ase: rearranges the chemical structure of a compound

Dehydrogen – ase: removes a hydrogen and transfers it to a carrier such as NAD⁺

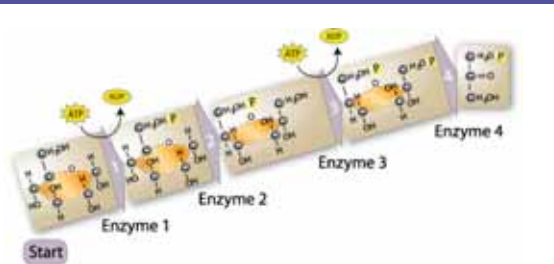
Hydrol – ase: catalyzes hydrolysis of covalent bonds

Polymer – ase: catalyzes formation of a polymer

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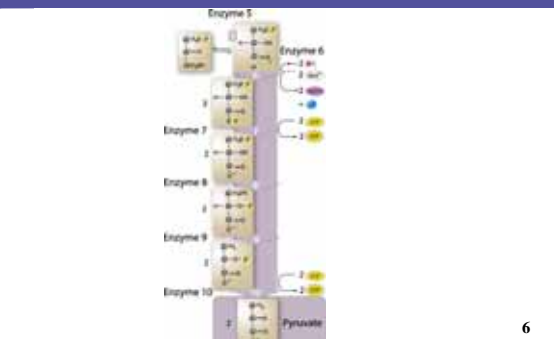
Energy-investing Steps of Glycolysis



5



Energy-Harvesting Steps of Glycolysis



6



Glycolysis – a ubiquitous process

