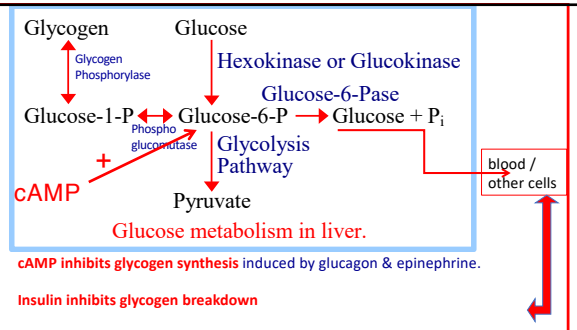


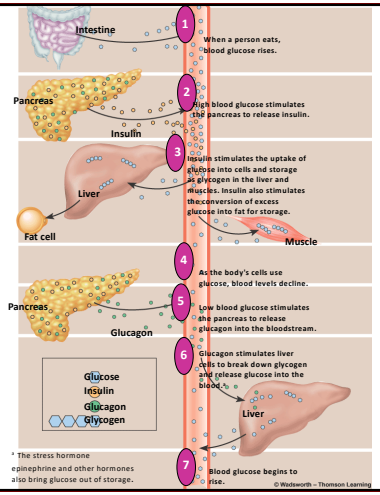
cAMP inhibits glycogen synthesis induced by glucagon & epinephrine.

Insulin inhibits glycogen breakdown

High cytosolic glucose-6-phosphate, which would result when blood glucose is high, turns off the signal with regard to glycogen synthesis.

The conformation of Glycogen Synthase induced by the allosteric activator glucose-6-phosphate is susceptible to dephosphorylation by Protein Phosphatase.

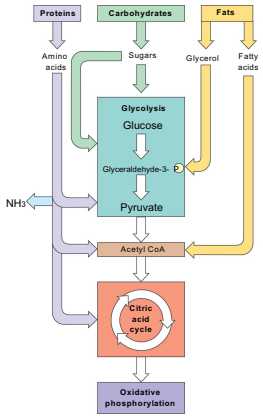
Maintaining Blood Glucose Homeostasis



- **Glycolysis and the citric acid cycle connect to many other metabolic pathways**

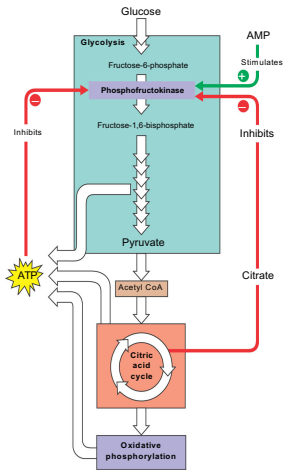
The Versatility of Catabolism

- Catabolic pathways
  - Funnel electrons from many kinds of organic molecules into cellular respiration
- The catabolism of various molecules from food



Biosynthesis (Anabolic Pathways)

- The body uses small molecules to build other substances
- These small molecules may come directly from food or through glycolysis or the citric acid cycle



Regulation of Cellular Respiration via Feedback Mechanisms

- Cellular respiration
  - is controlled by allosteric enzymes at key points in glycolysis and the citric acid cycle