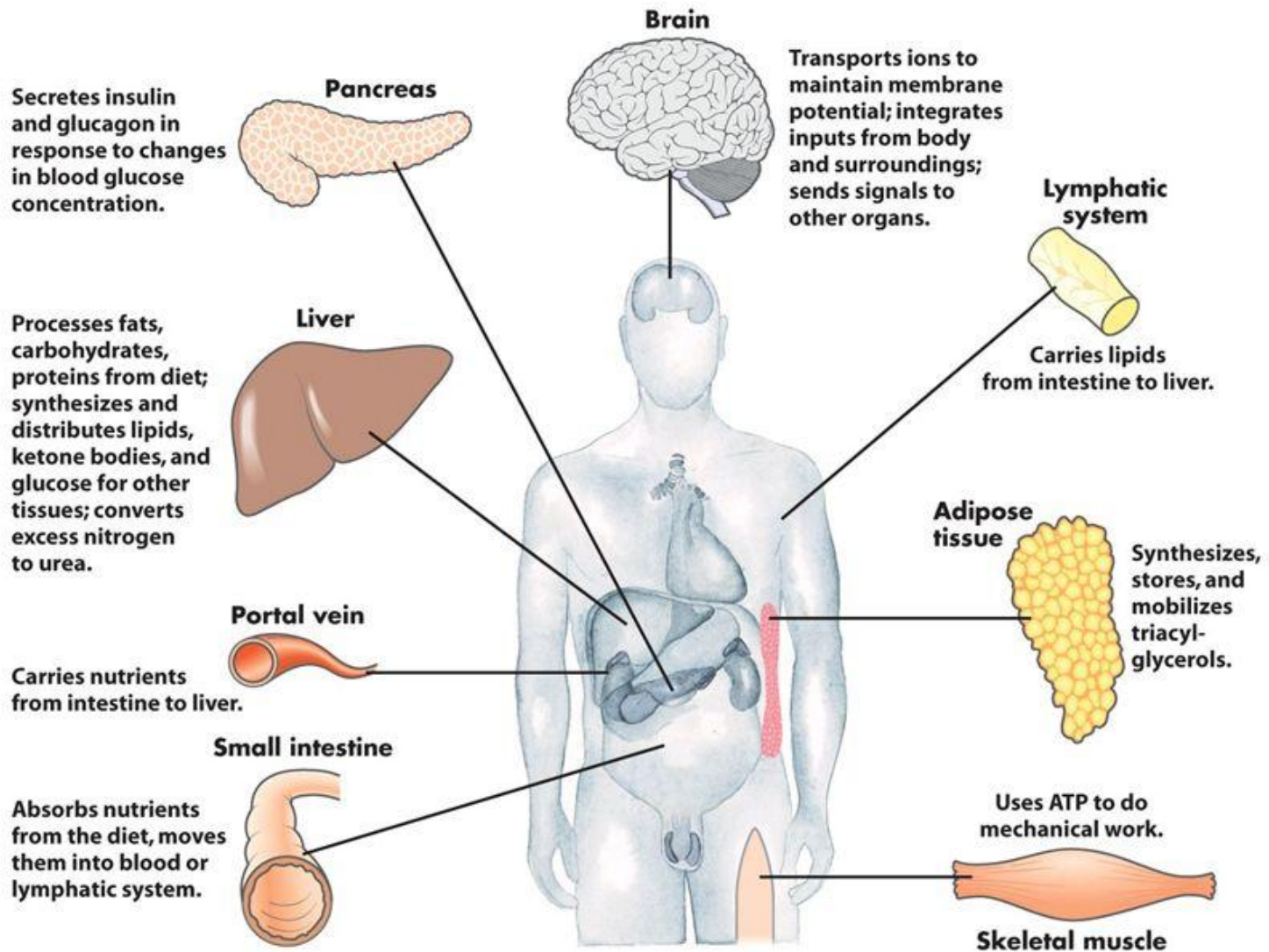
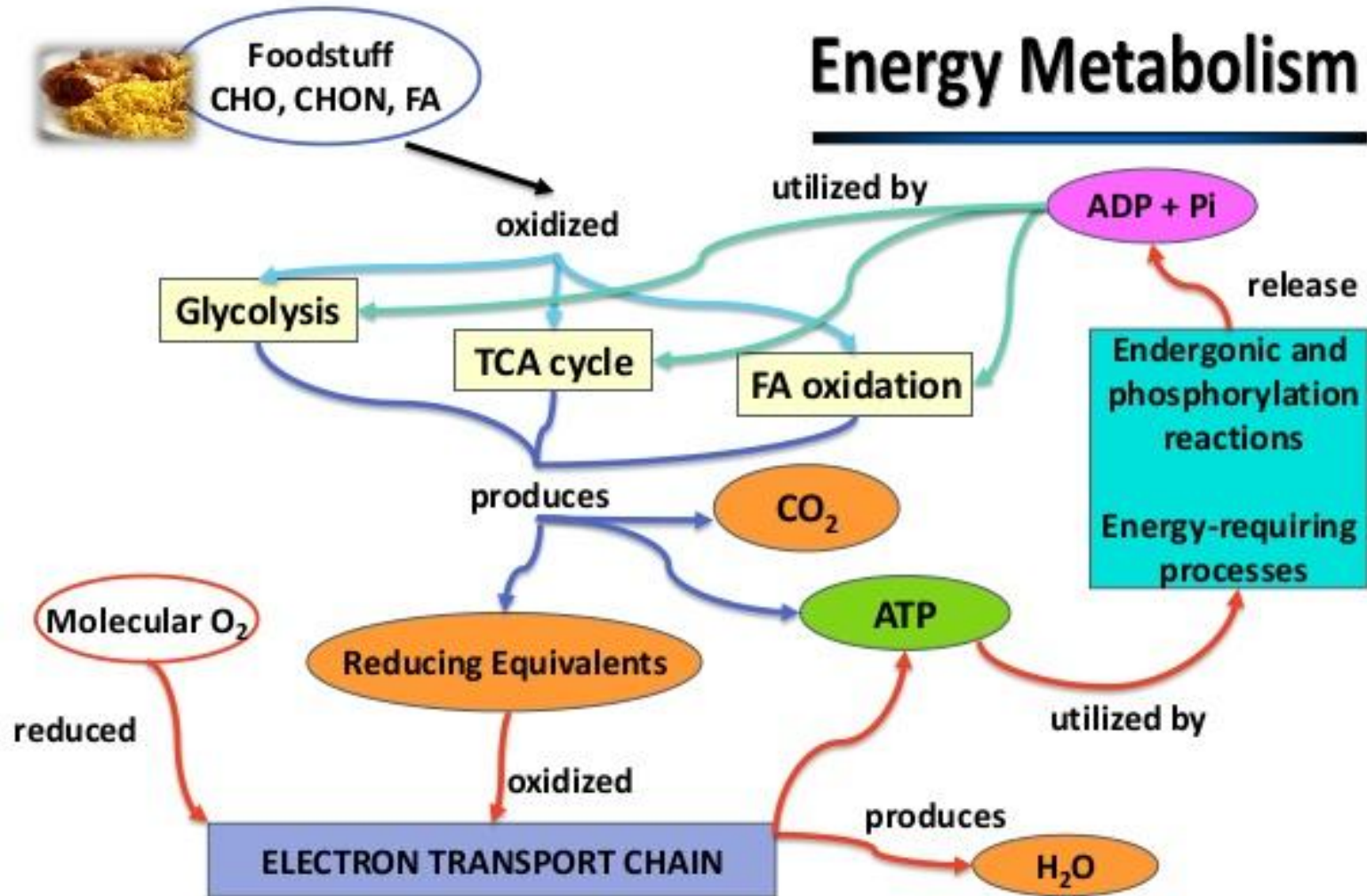


Metabolic Profile of Organs



Metabolismo energetico



Catabolismo aminoacidico

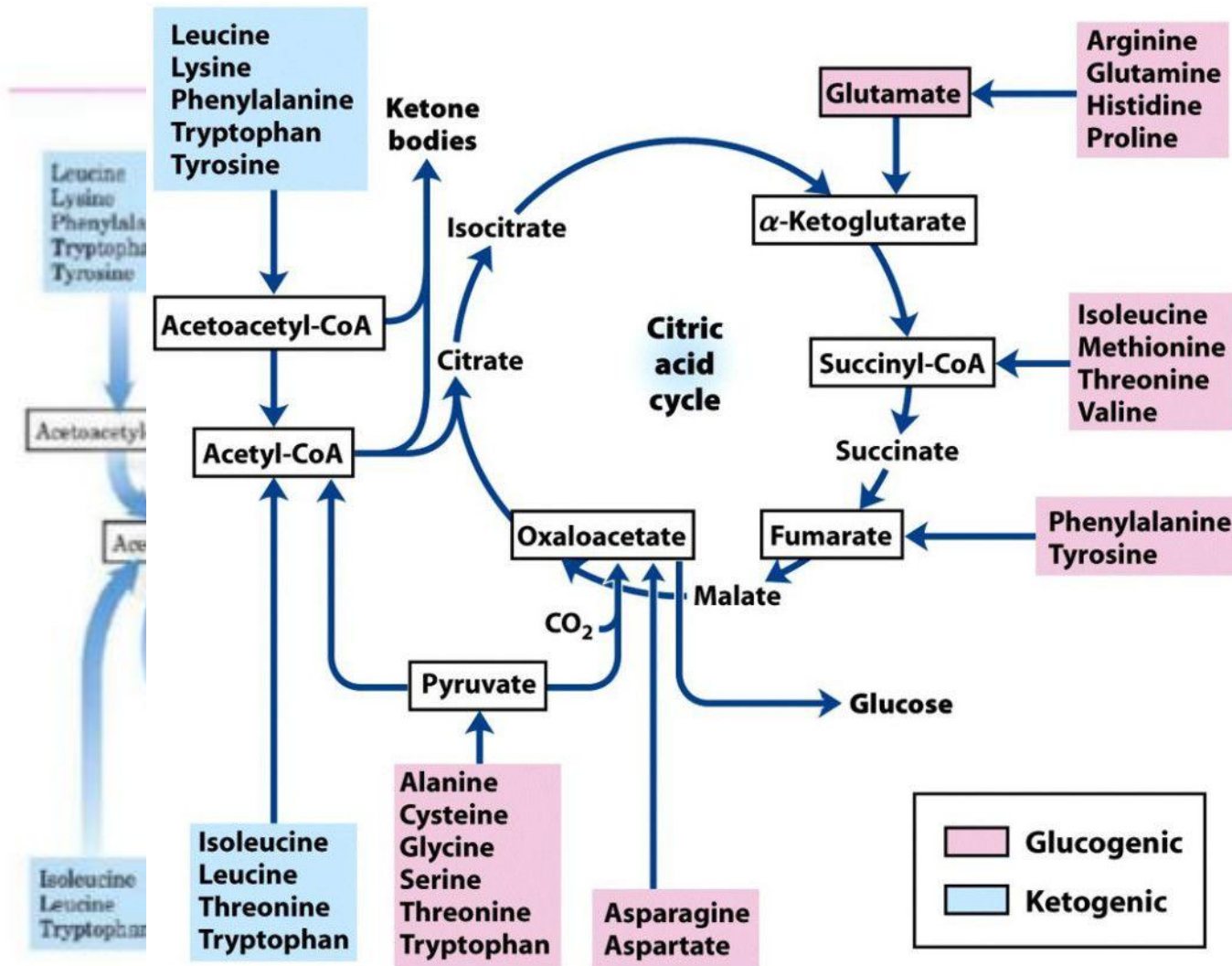


Figure 18-15
Lehninger Principles of Biochemistry, Fifth Edition
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Catabolismo aminoacidico

Figure 1A: Ammonia Production and Urea Synthesis

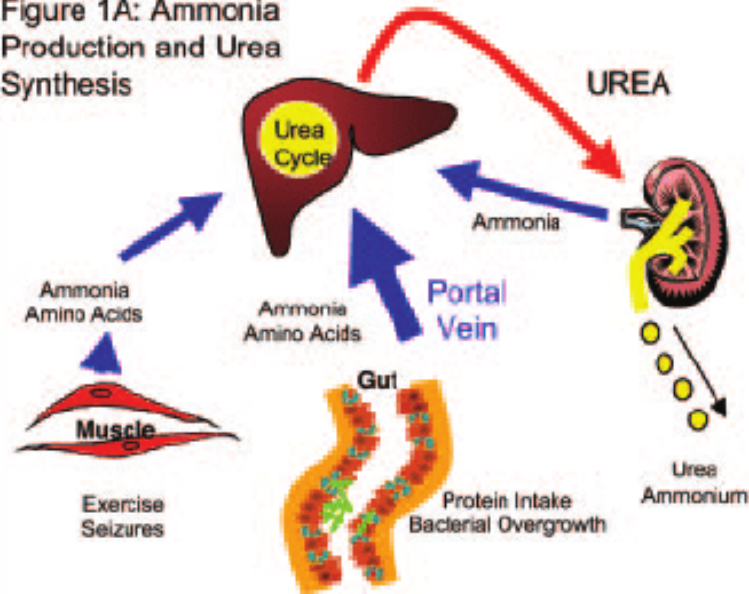
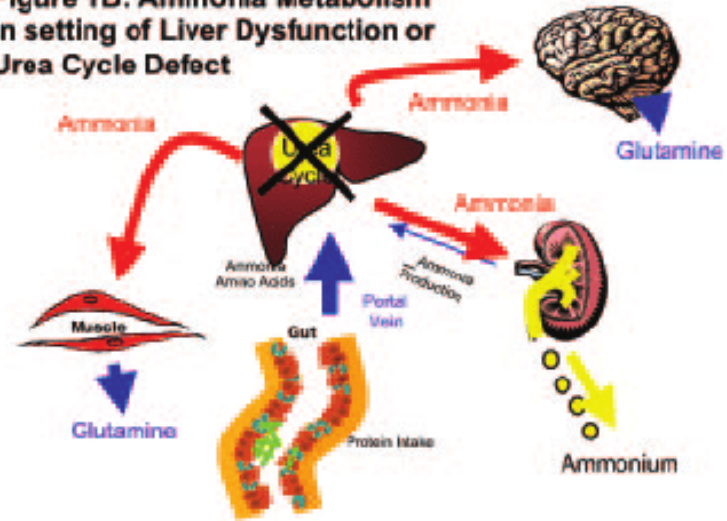
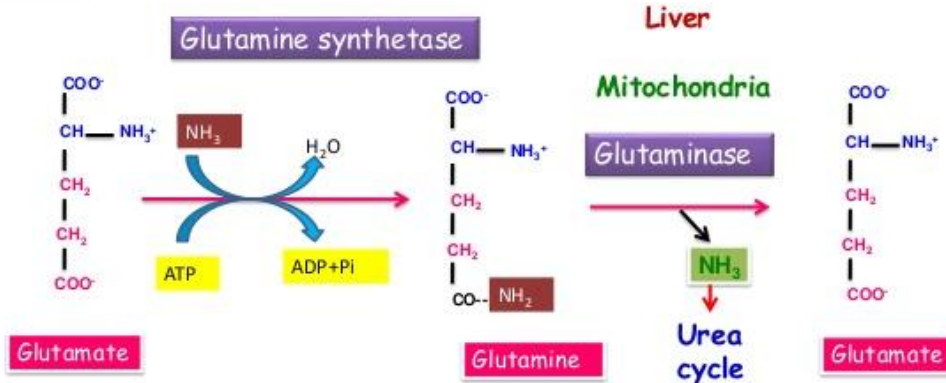


Figure 1B: Ammonia Metabolism in setting of Liver Dysfunction or Urea Cycle Defect

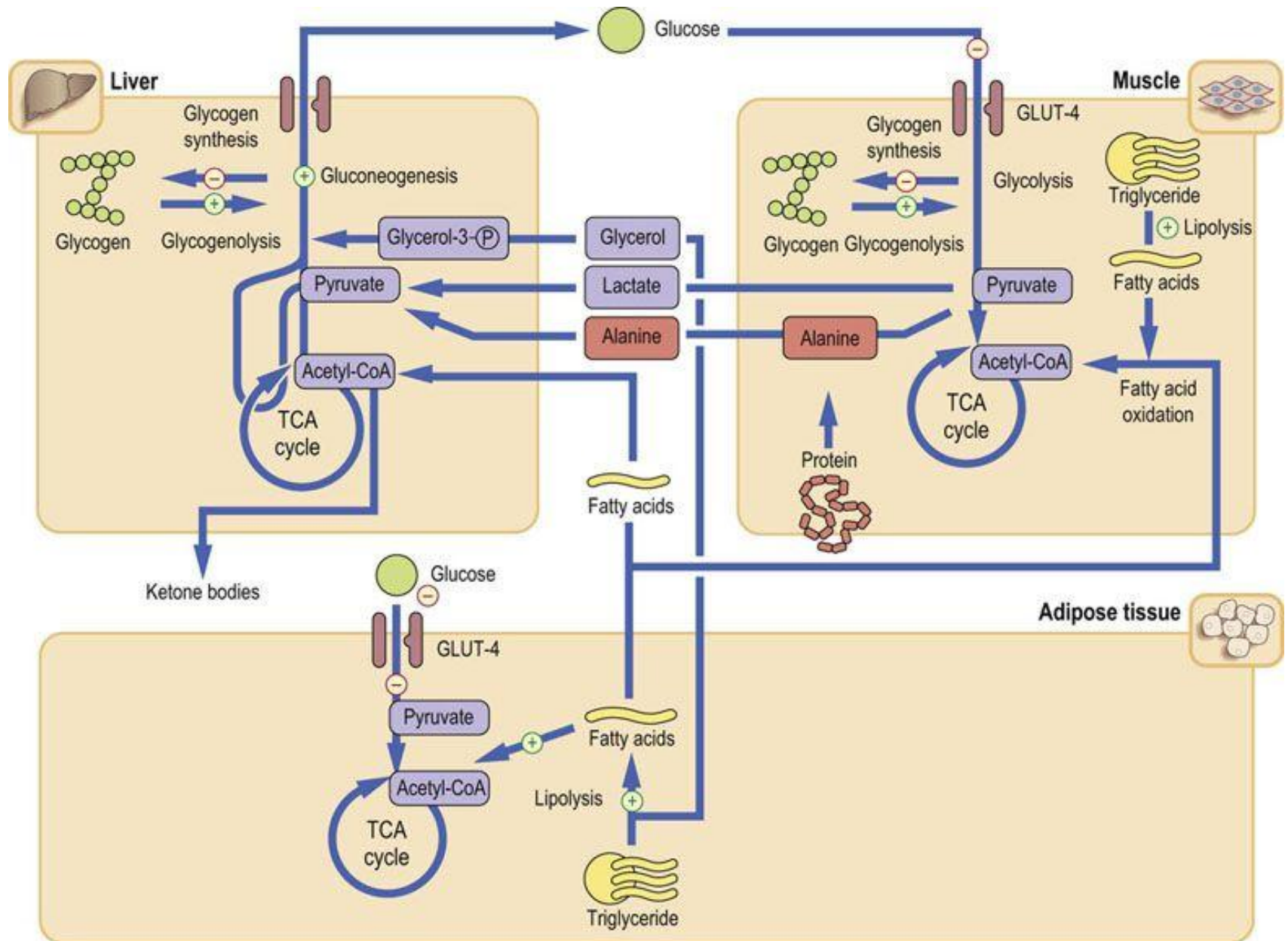


Brain



Glutamine is a non-toxic carrier of ammonia from Brain . It is released into blood circulation and carried to liver.

Scambi metabolici tra organi



Scambi metabolici tra organi

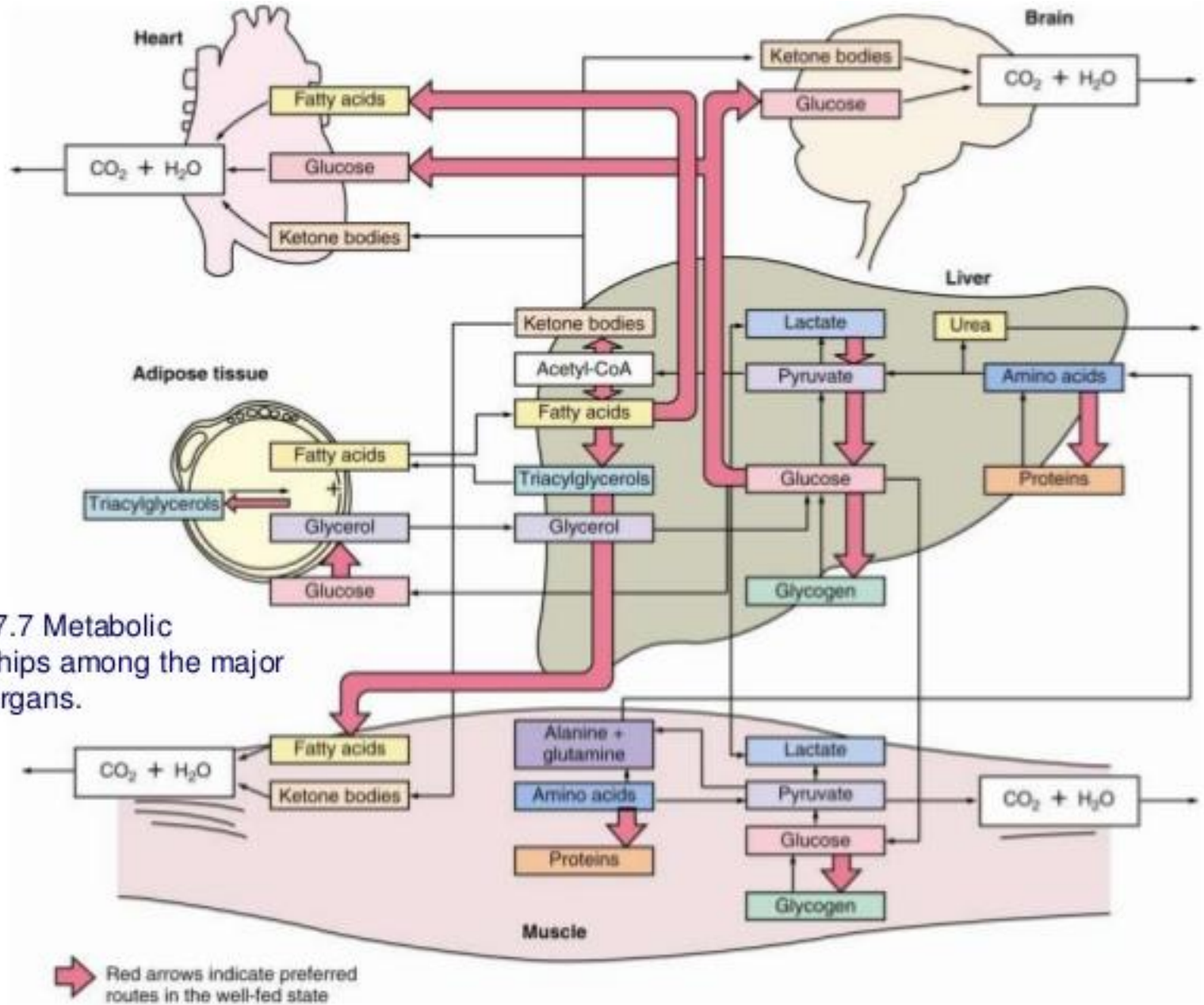
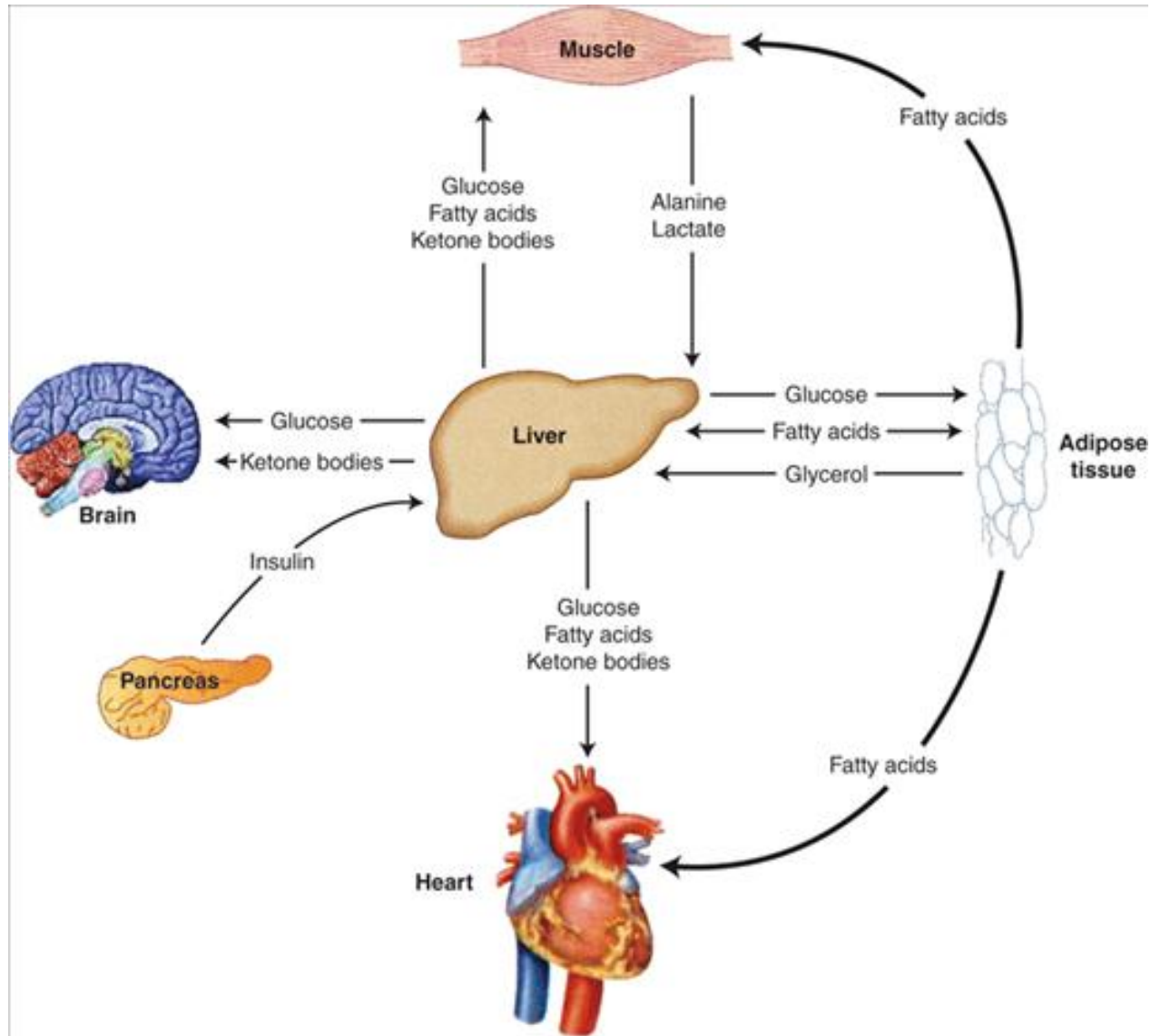


Figure 27.7 Metabolic relationships among the major human organs.

Scambi metabolici tra organi

Organ	Energy Reservoir	Preferred Substrate	Energy Sources Exported
Brain	None	Glucose (ketone bodies during starvation)	None
Skeletal muscle (resting)	Glycogen	Fatty acids	None
Skeletal muscle (prolonged exercise)	None	Glucose	Lactate
Heart muscle	Glycogen	Fatty acids	None
Adipose tissue	Triacylglycerol	Fatty acids	Fatty acids, glycerol
Liver	Glycogen, triacylglycerol	Amino acids, glucose, fatty acids	Fatty acids, glucose, ketone bodies

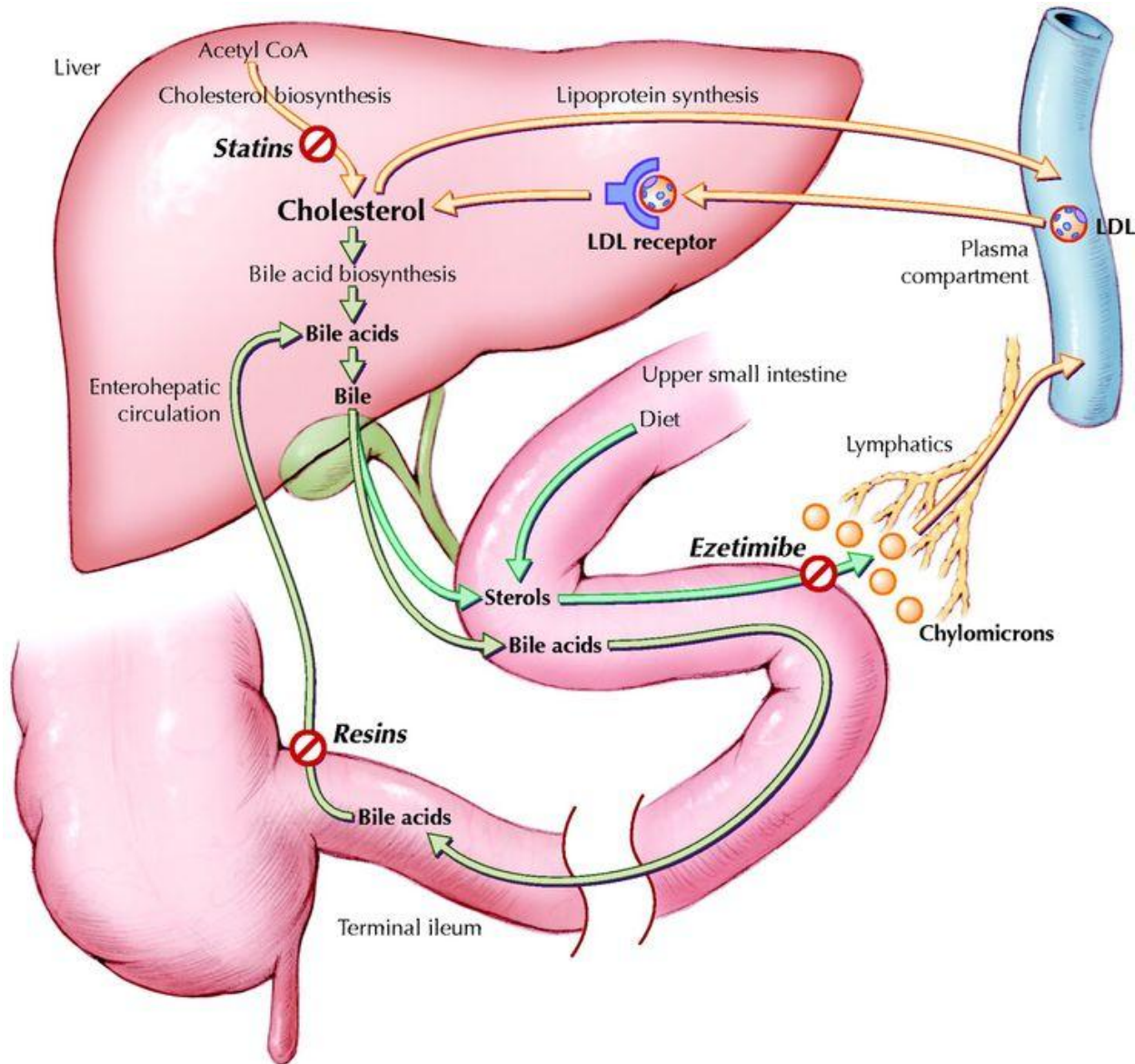
Ruolo del fegato



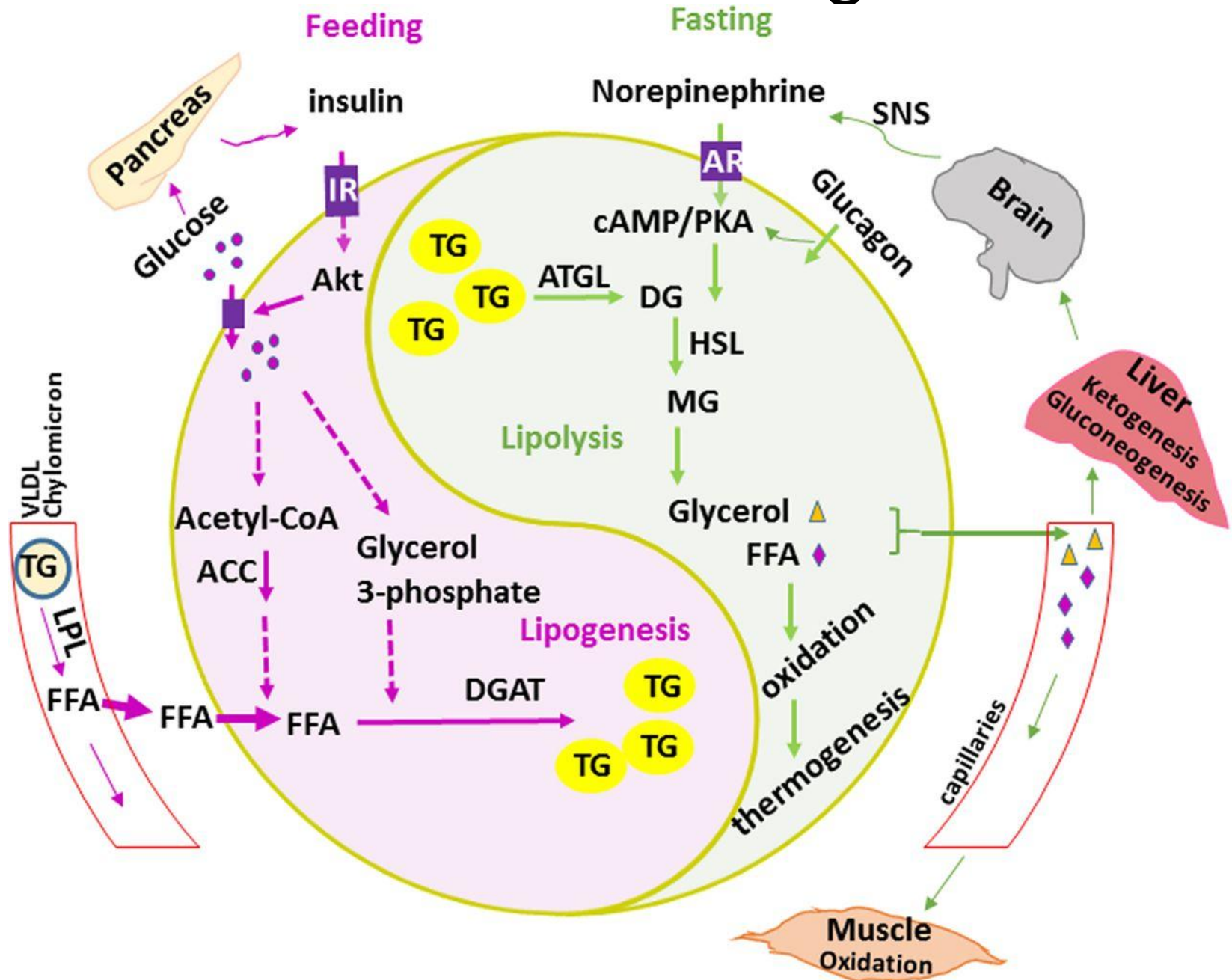
Source: Janson LW, Tischler ME: *The Big Picture: Medical Biochemistry*:
www.accessmedicine.com

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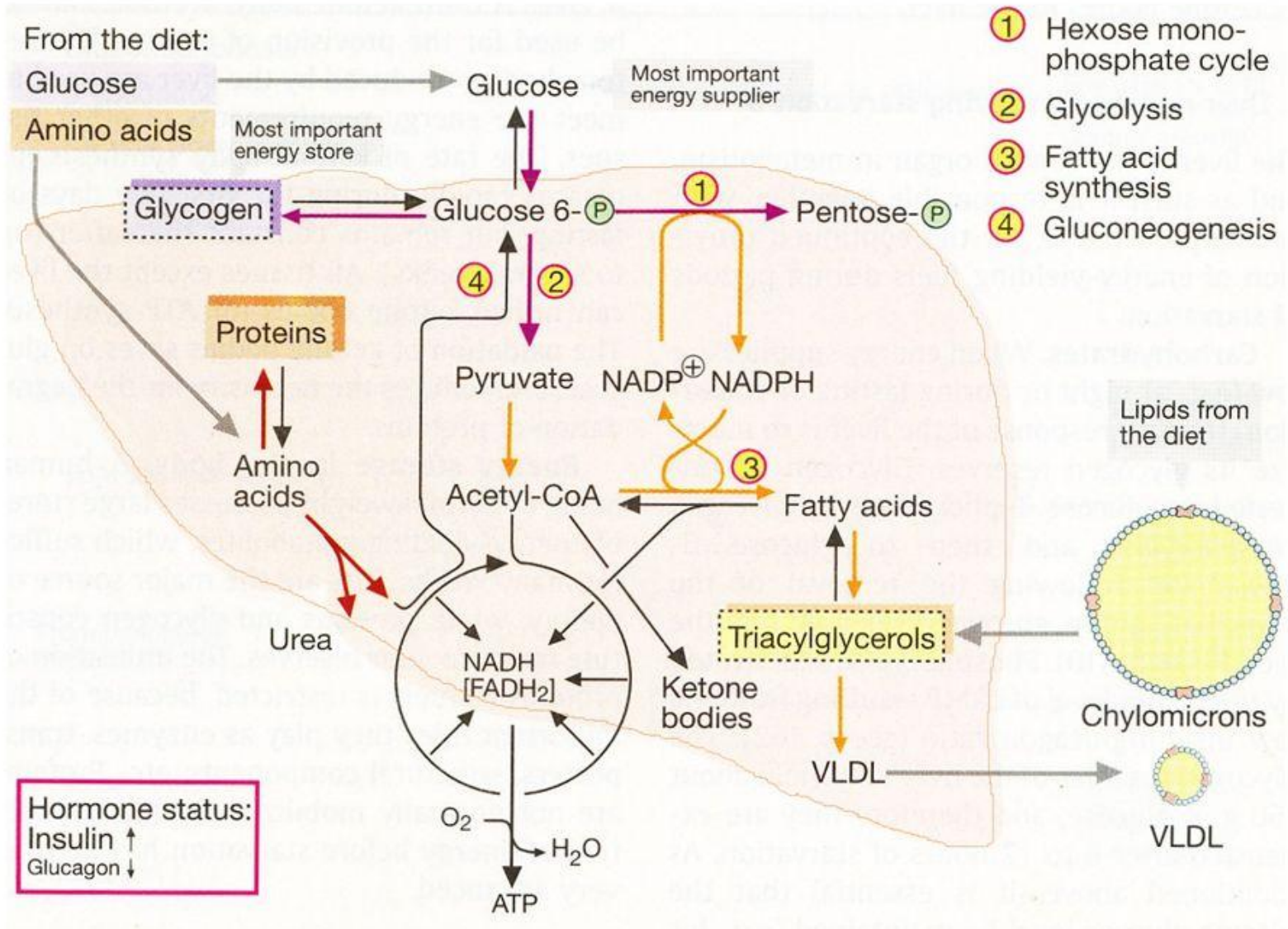
Metabolismo lipidico



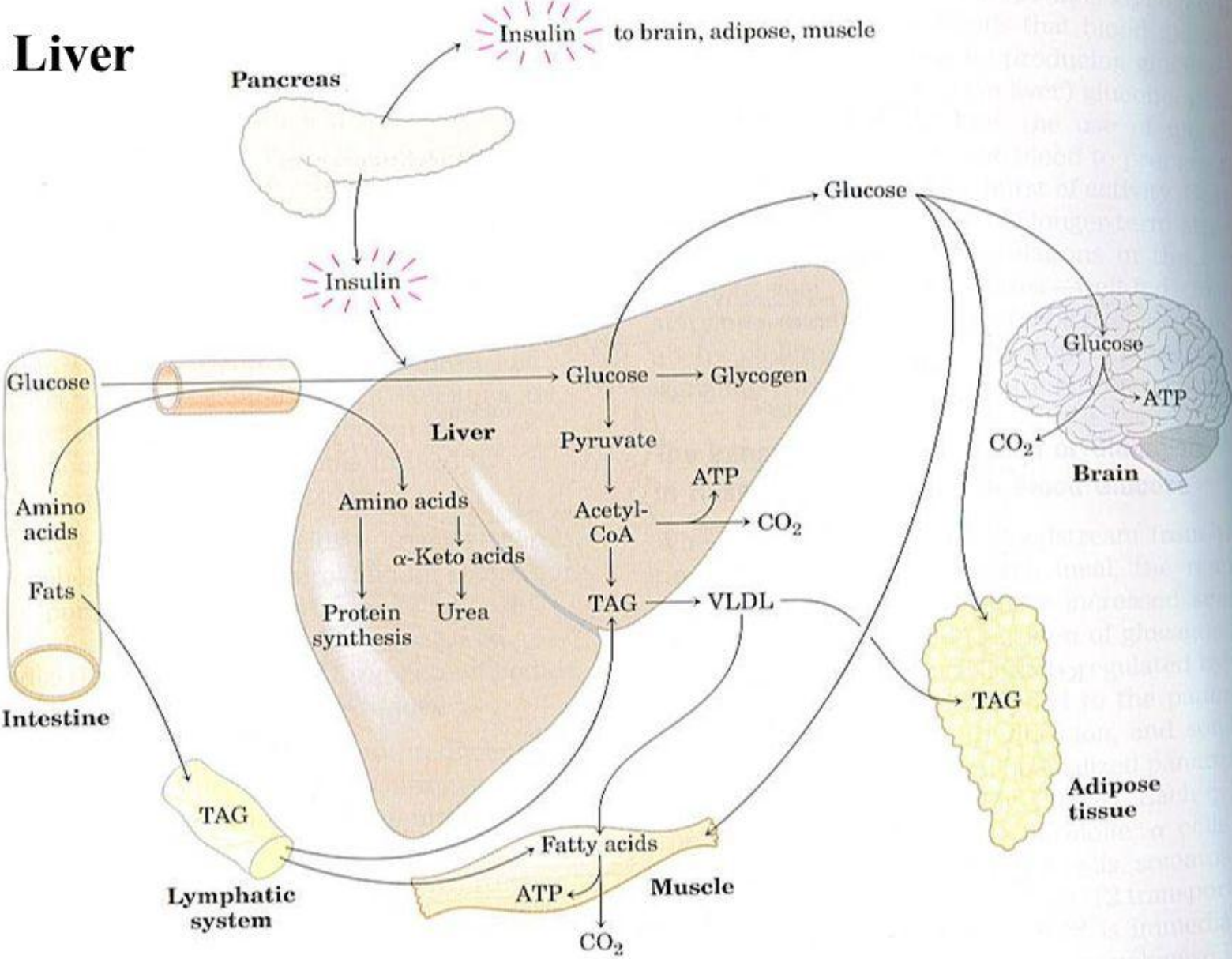
Alimentazione e digiuno



Liver metabolism in the well-fed state

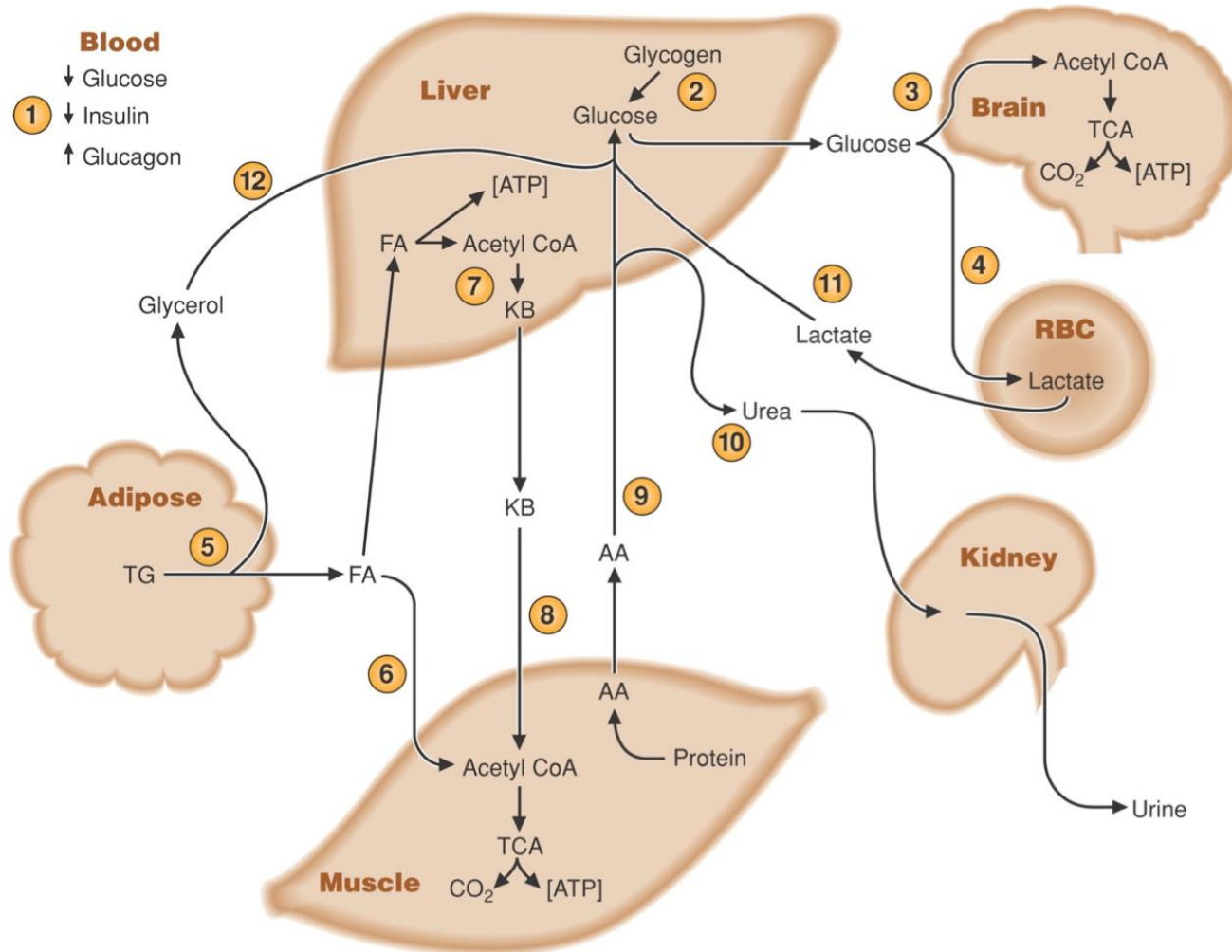


Fed Liver

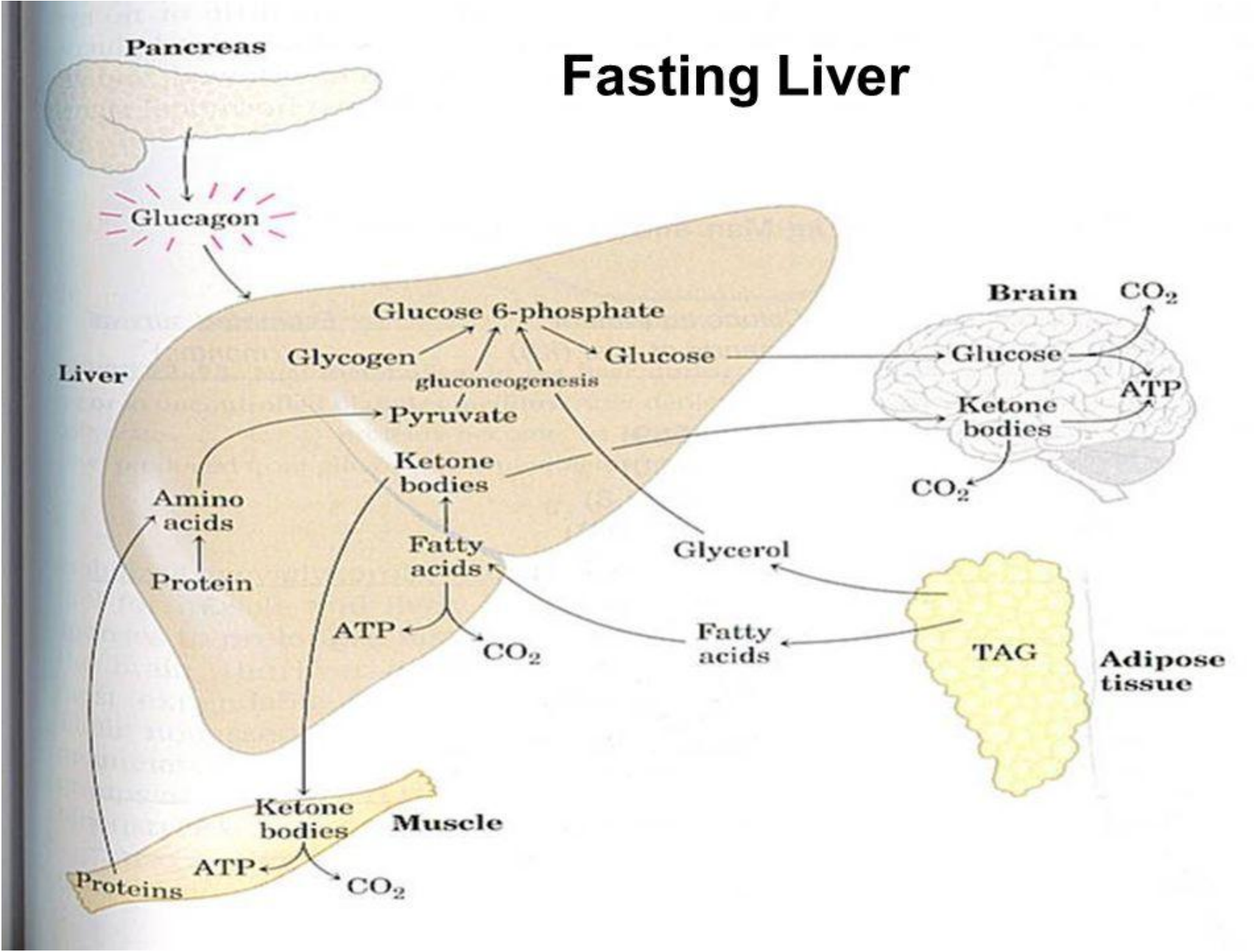




The basal "Fasted" State

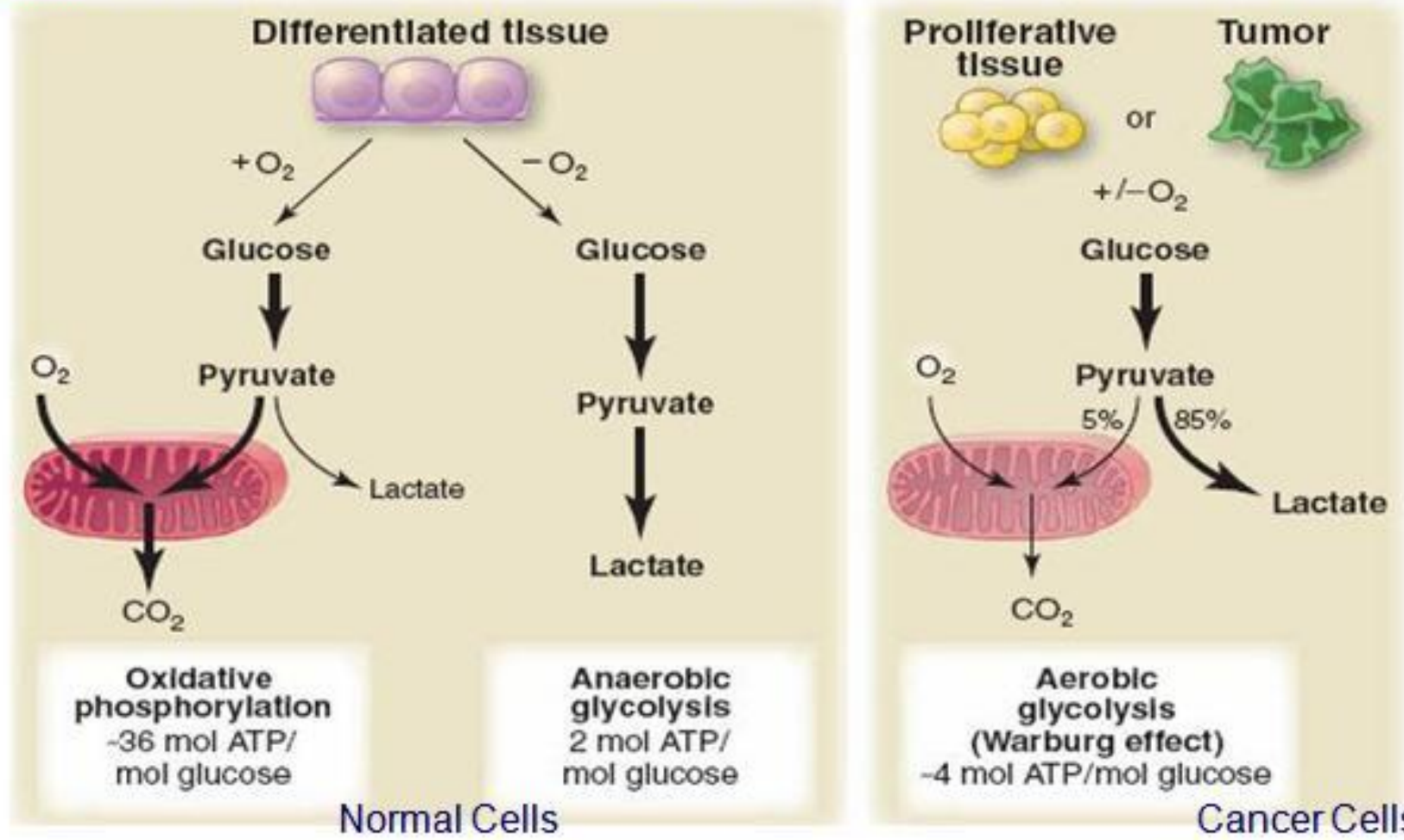


Fasting Liver



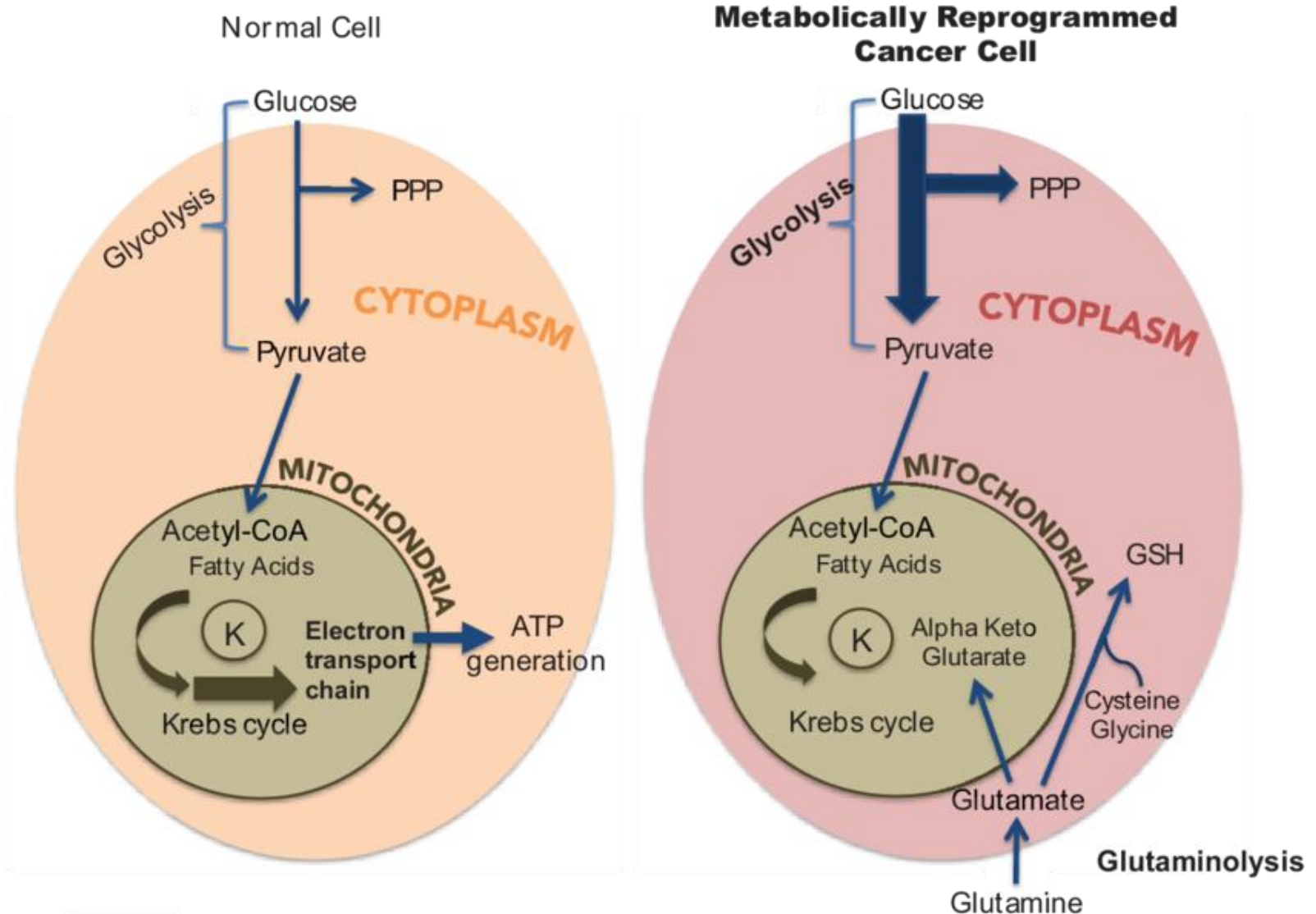
Difference Between Normal and Cancer Cells

Heiden, et al. Understanding the Warburg Effect: The Metabolic Requirements of Cell Proliferation. Science 324, 1029 (2009)

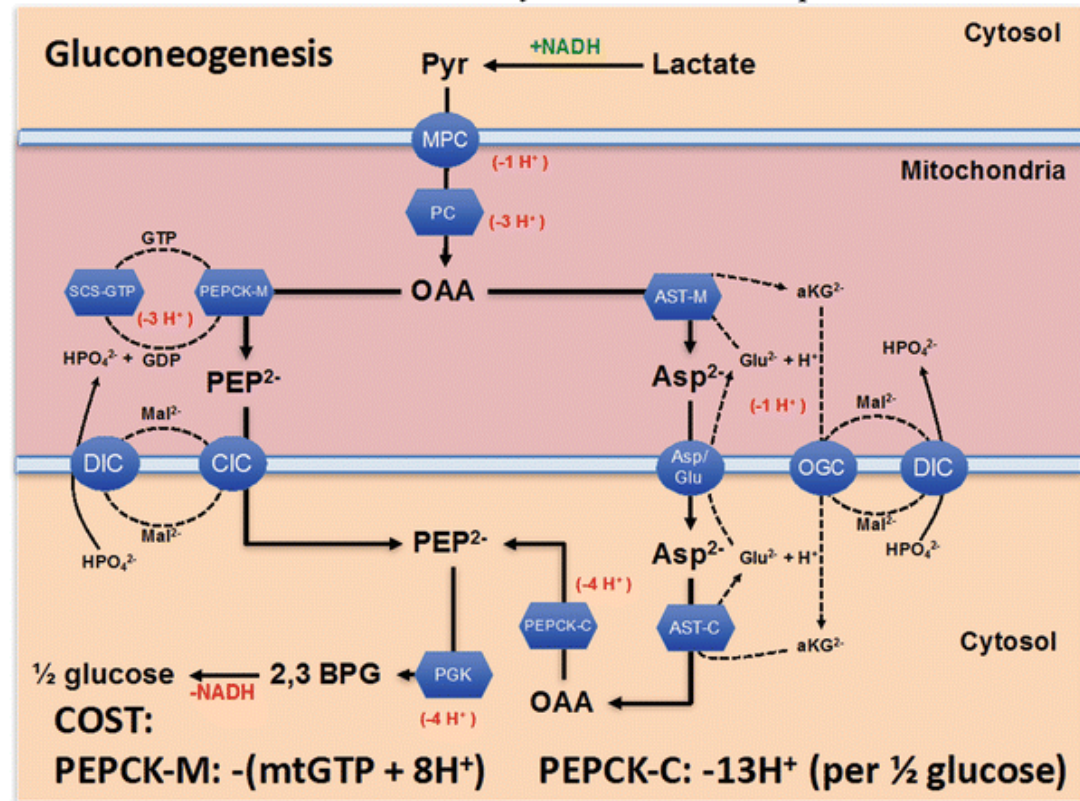
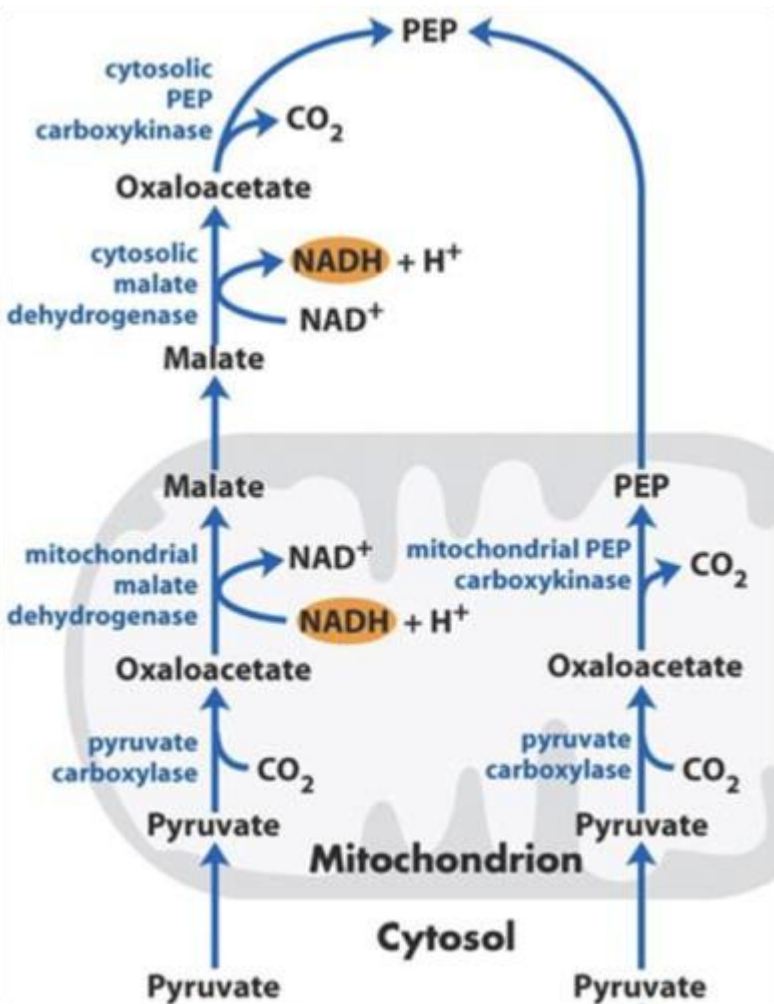


Increasing respiration will stop cancer! The best way is to give what cancer like. Cancer likes sugar.

Metabolismo cellulare nella cellula cancerosa



Piruvato e gluconeogenesi



La conversione piruvato \rightarrow ossalacetato avviene solo ne mitocondrio (reazione anaplerotica) mentre la sintesi di PEP può avvenire sia nel mitocondrio che nel citosol

Trasporto citrato e sintesi acidi grassi

