Ankara University, Faculty of Agriculture , Department of Fisheries and Aquaculture, Programme of Fisheries and Aquaculture

AQS104: Biochemistry

Reference: Nelson, D. L., Lehninger, A. L., & Cox, M. M. (2008). ***Lehninger Principles of Biochemistry (5th edition)***. Macmillan.

AQS104 BIOCHEMISTRY: Weekly Programme	
1. Week: • The foundations of biochemistry • Water	**8. Week:** Principles of metabolic regulation The citric acid cycle
2. Week: • Amino acids, peptides, and proteins • The three-dimensional structure of proteins	**9. Week:** Fatty acid catabolism Aino acid oxidation and the production of urea
3. Week: • Protein function • Enzymes	**10. Week:** Oxidative phosphorylation and photophosphorylation Carbohydrate biosynthesis in plants and bacteria
4. Week: • Carbohydrates and Glycobiology • Nucleotides and Nucleic Acids	**11. Week:** Lipid biosynthesis Biosynthesis of amino acids, nucleotides, and related molecules
5. Week: • DNA-based information technologies • Lipids	**12. Week:** Hormonal regulation and integration of mammalian metabolism Genes and chromosomes
6. Week: Biological membranes and transport Biosignaling	**13. Week:** DNA metabolism RNA metabolism
7. Week: Bioenergetics and biochemical reaction types Glycolysis, gluconeogenesis, and the pentose phosphate pathway	**14. Week:** Protein metabolism Regulation of gene expression

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8. Week:

Principles of Metabolic Regulation

The Citric Acid Cycle

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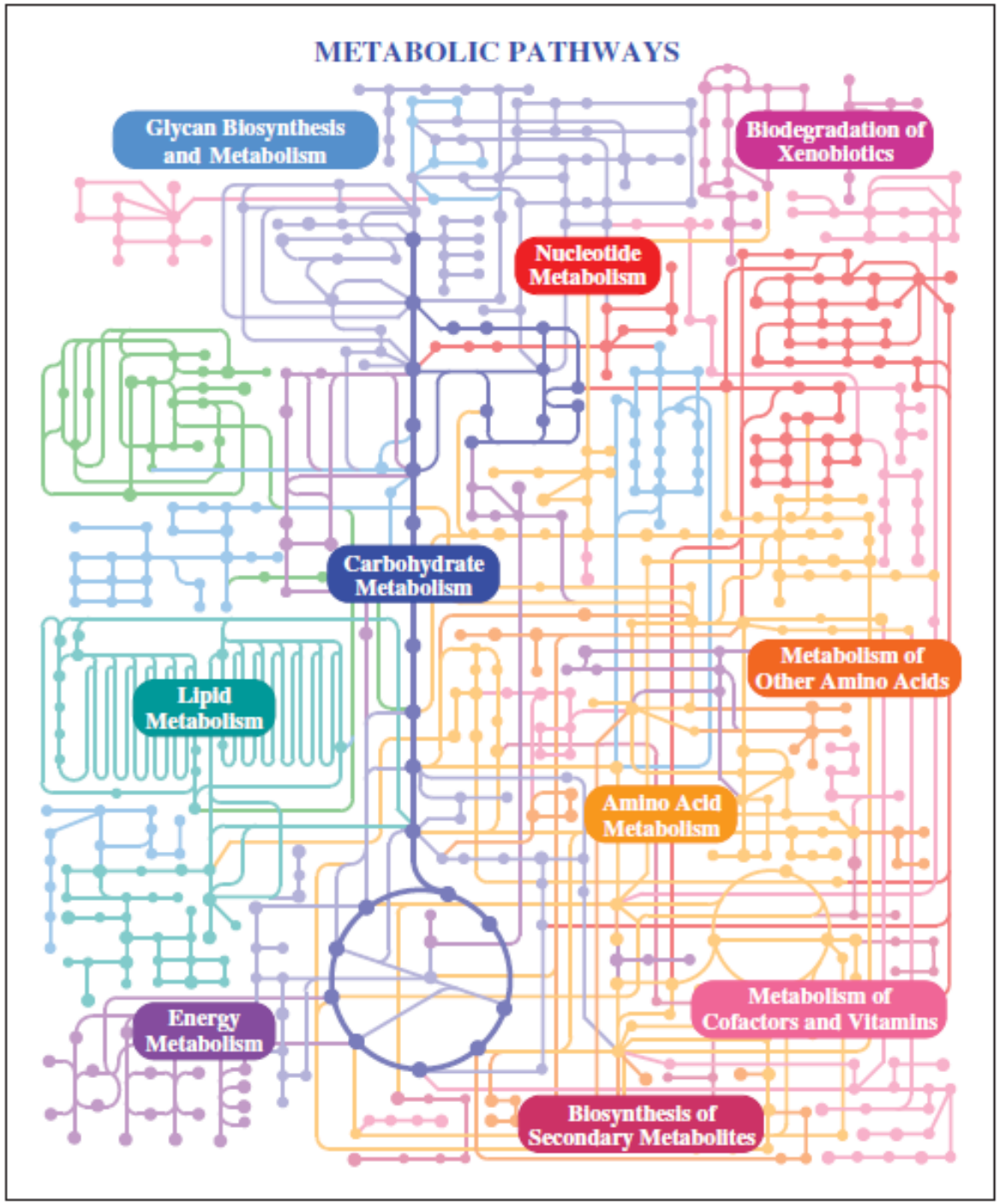

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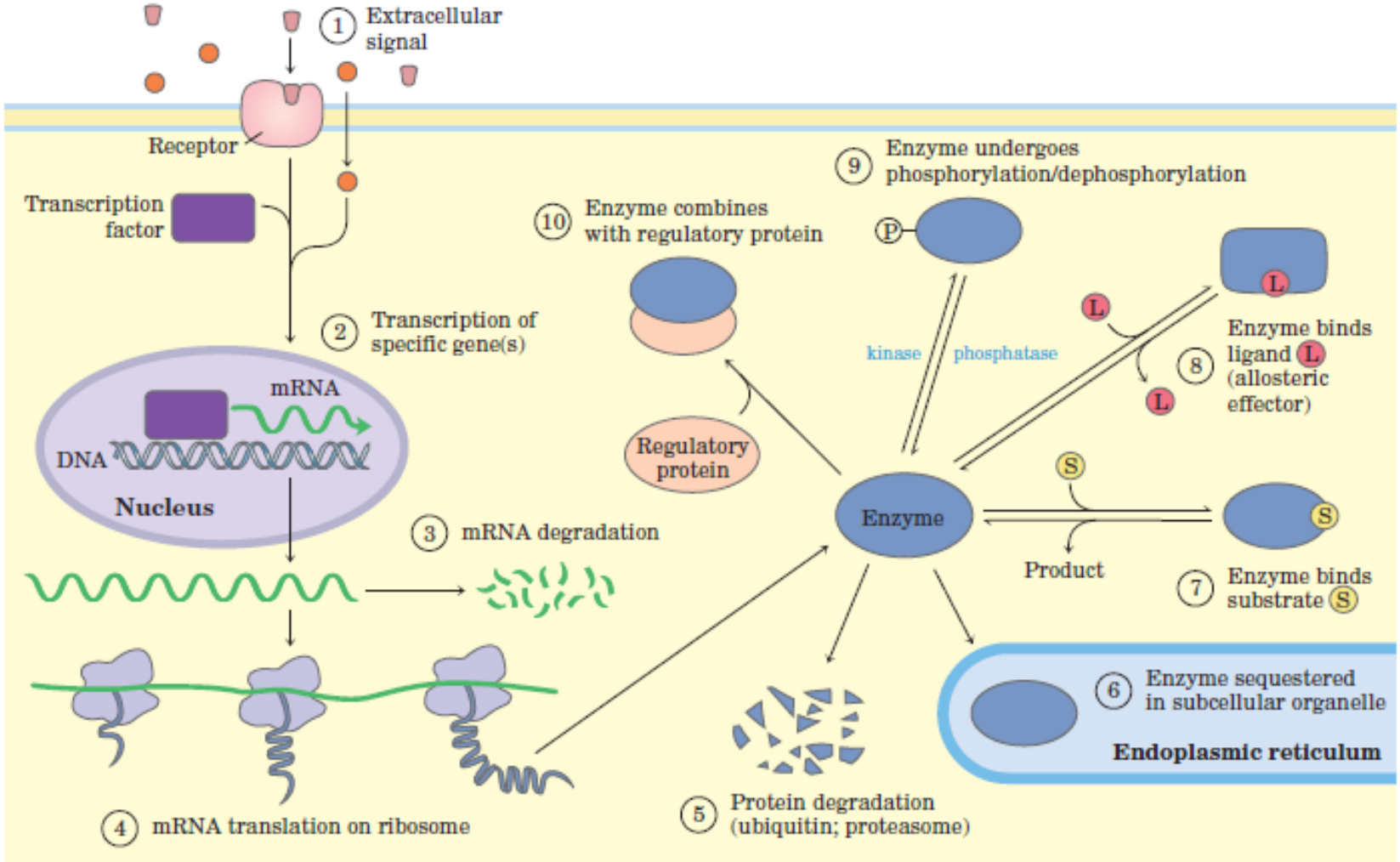

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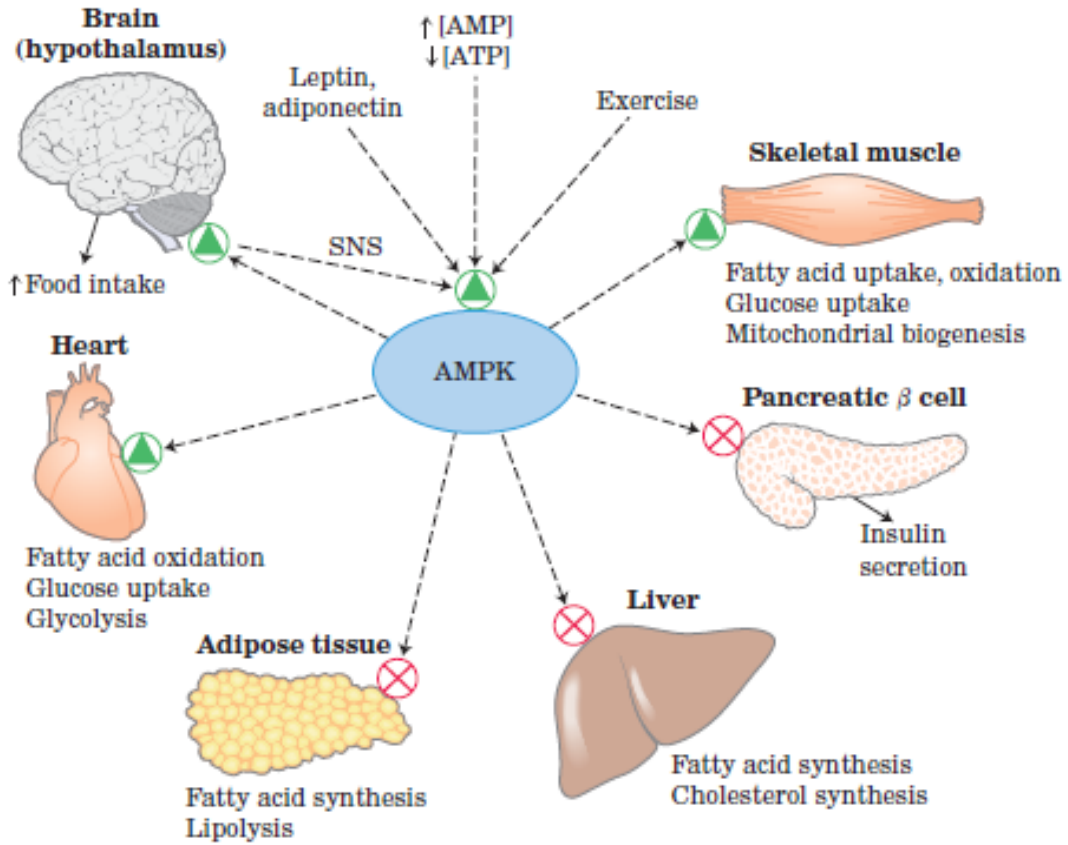

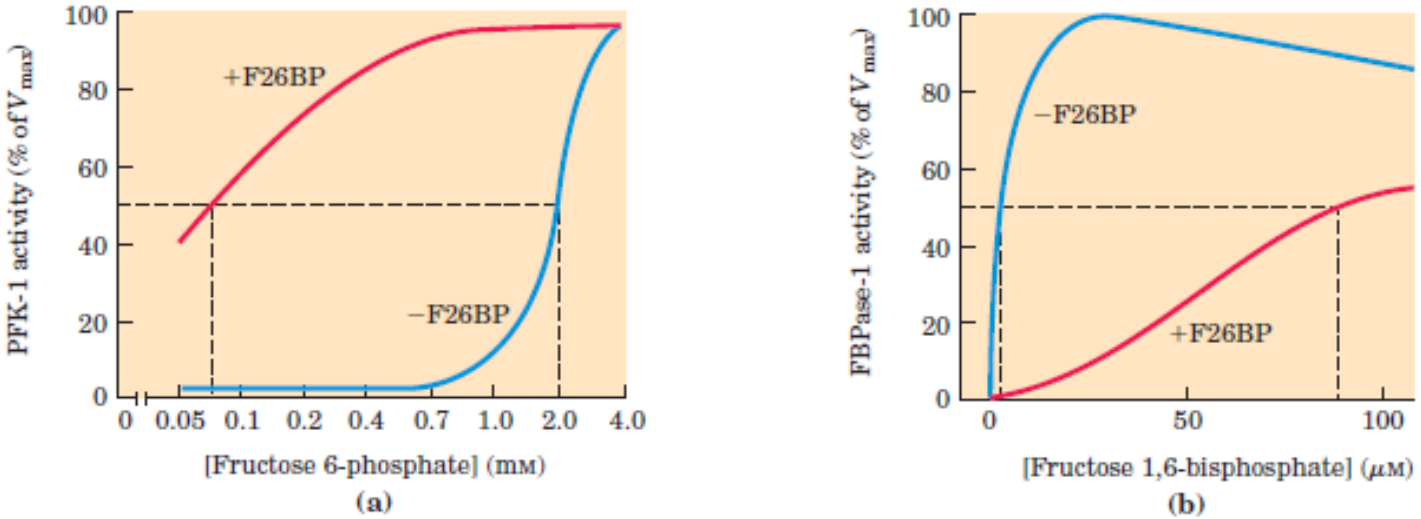

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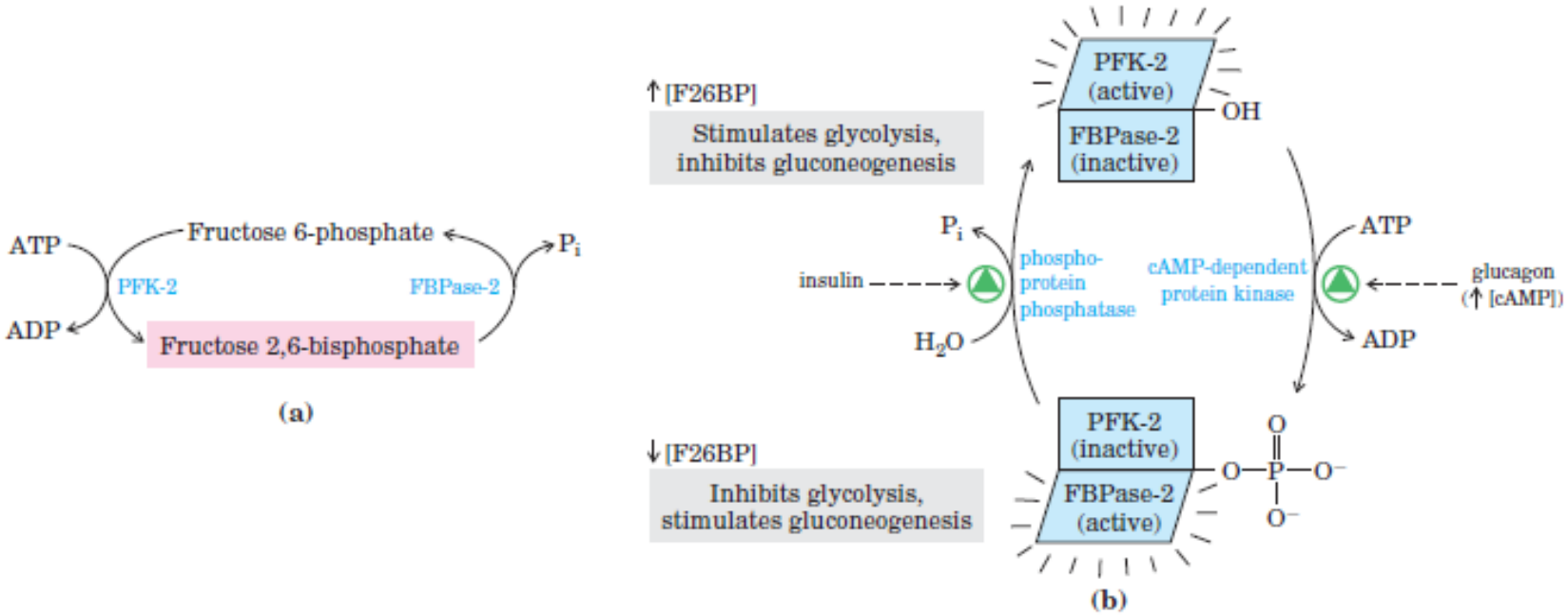

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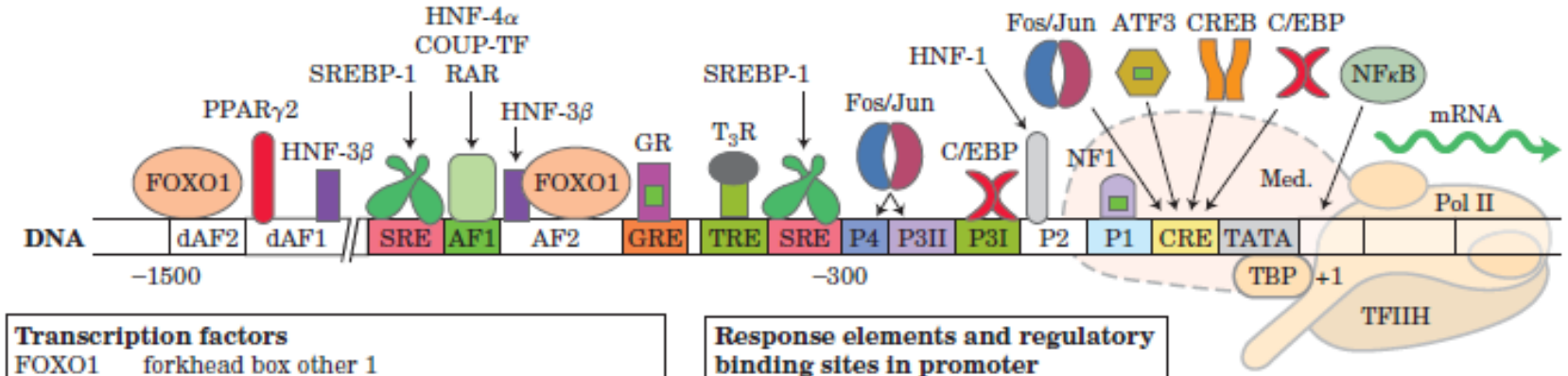
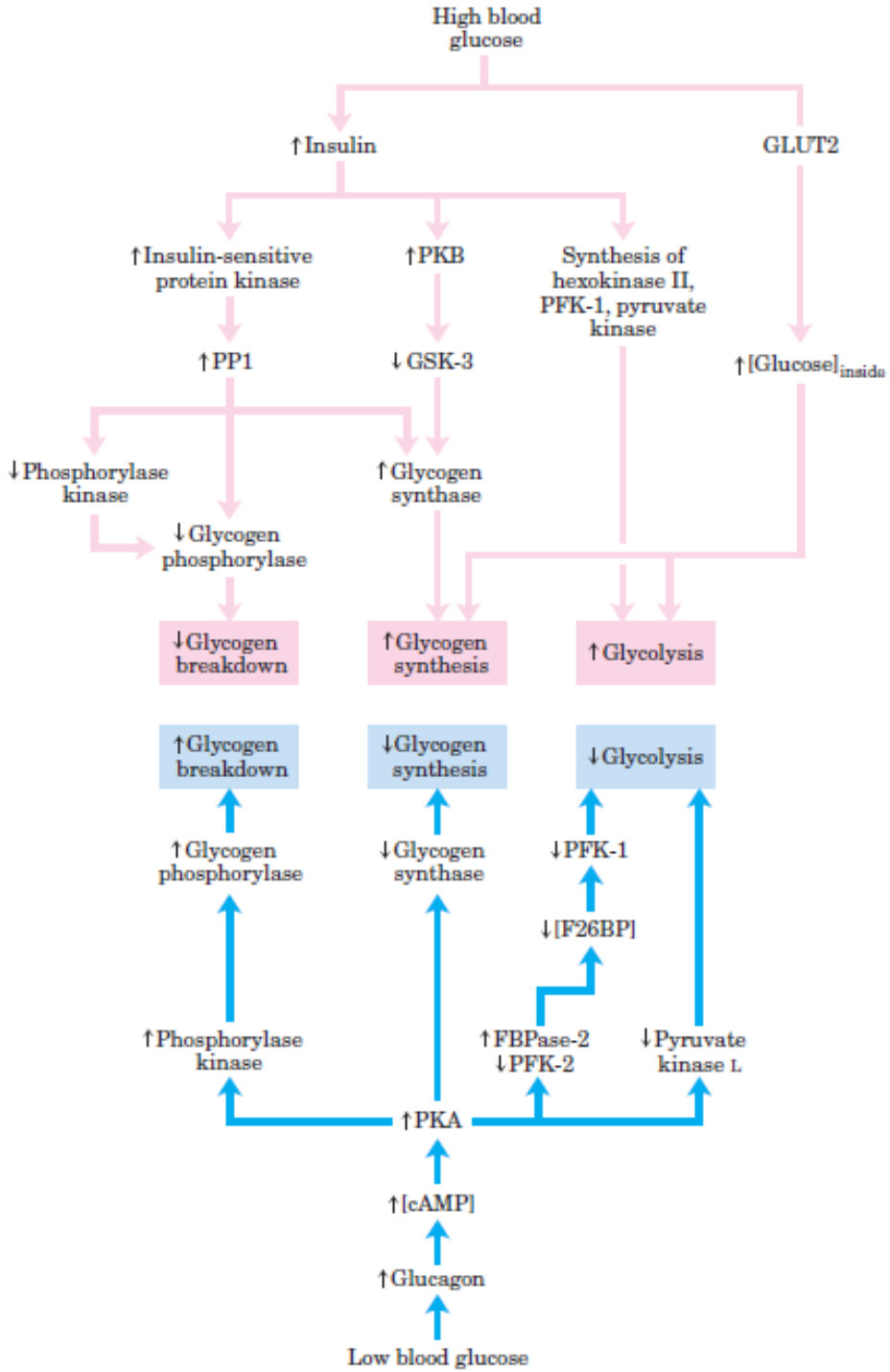


Transcription factors	
FOXO1	forkhead box other 1
PPARγ2	peroxisome proliferator-activated receptor γ2
HNF-3β	hepatic nuclear factor-3β
SREBP-1	sterol regulatory element binding protein-1
HNF-4α	hepatic nuclear factor-4α
COUP-TF	chicken ovalbumin upstream promoter–transcription factor
RAR	retinoic acid receptor
GR	glucocorticoid receptor
T_3R	thyroid hormone receptor
C/EBP	CAAT/enhance binding protein
HNF-1	hepatic nuclear factor-1
NF1	nuclear factor 1
ATF3	activating transcription factor 3
CREB	cAMP regulatory element binding protein
NFκB	nuclear factor κB
TBP	TATA-box binding protein
Med.	mediator
TFIIH	transcription factor IIH

Response elements and regulatory binding sites in promoter	
dAF2	distal accessory factor 2
dAF1	distal accessory factor 1
SRE	sterol regulatory element
AF1	accessory factor 1
AF2	accessory factor 2
GRE	glucocorticoid regulatory element
TRE	thyroid hormone regulatory element
CRE	cAMP regulatory element



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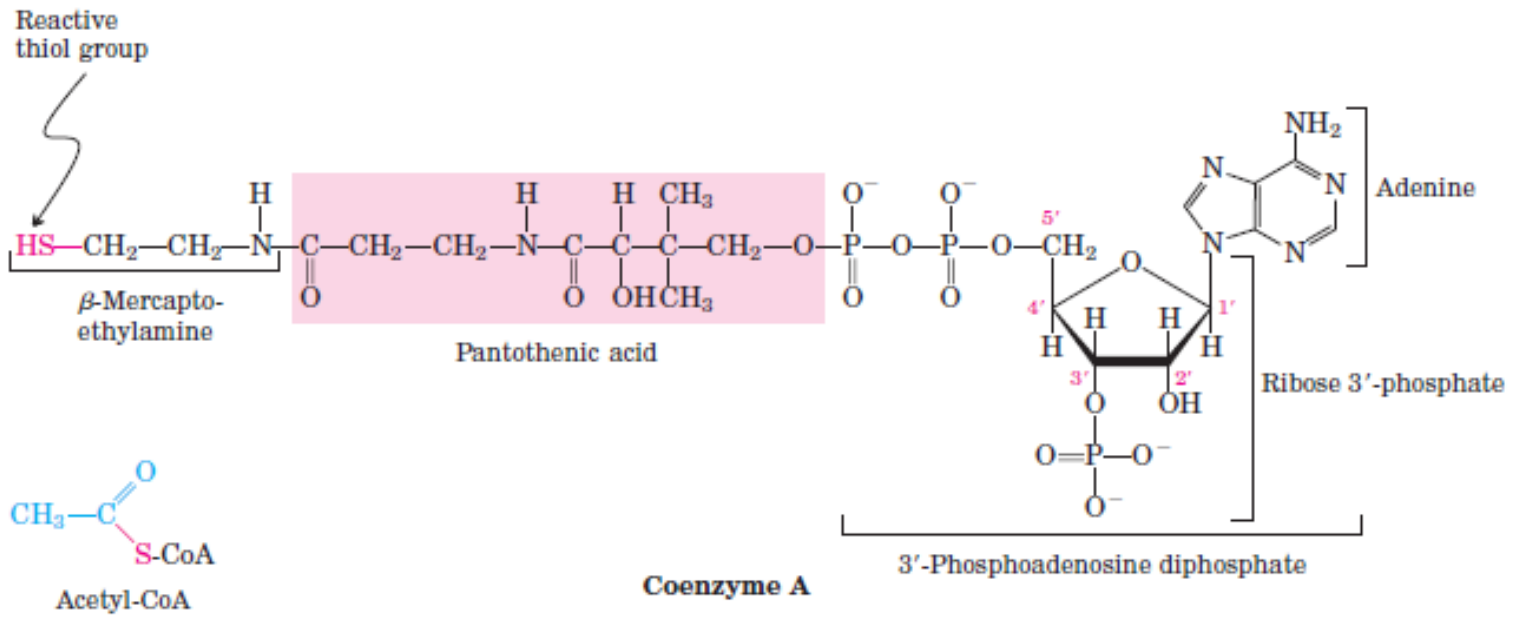

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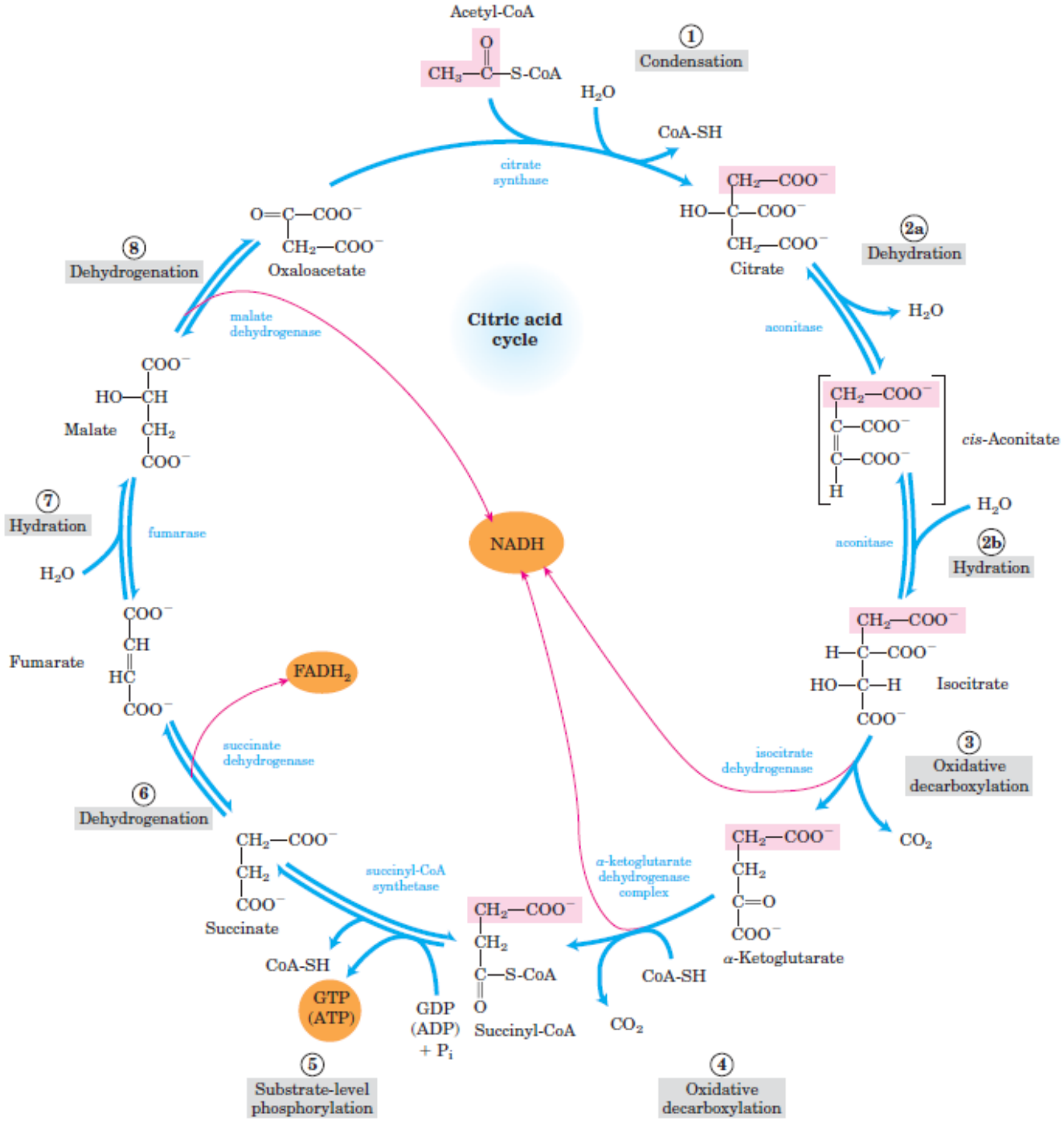

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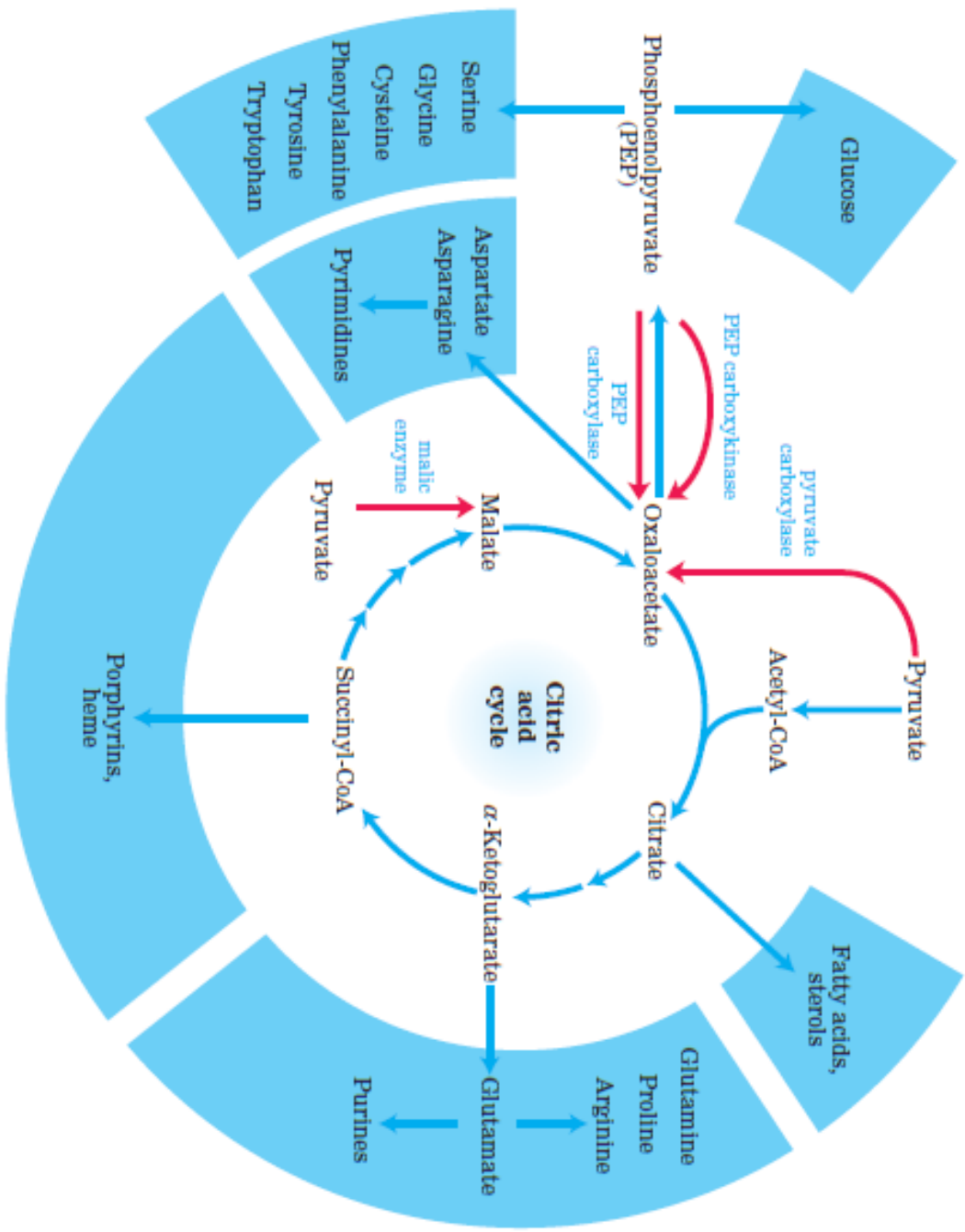
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