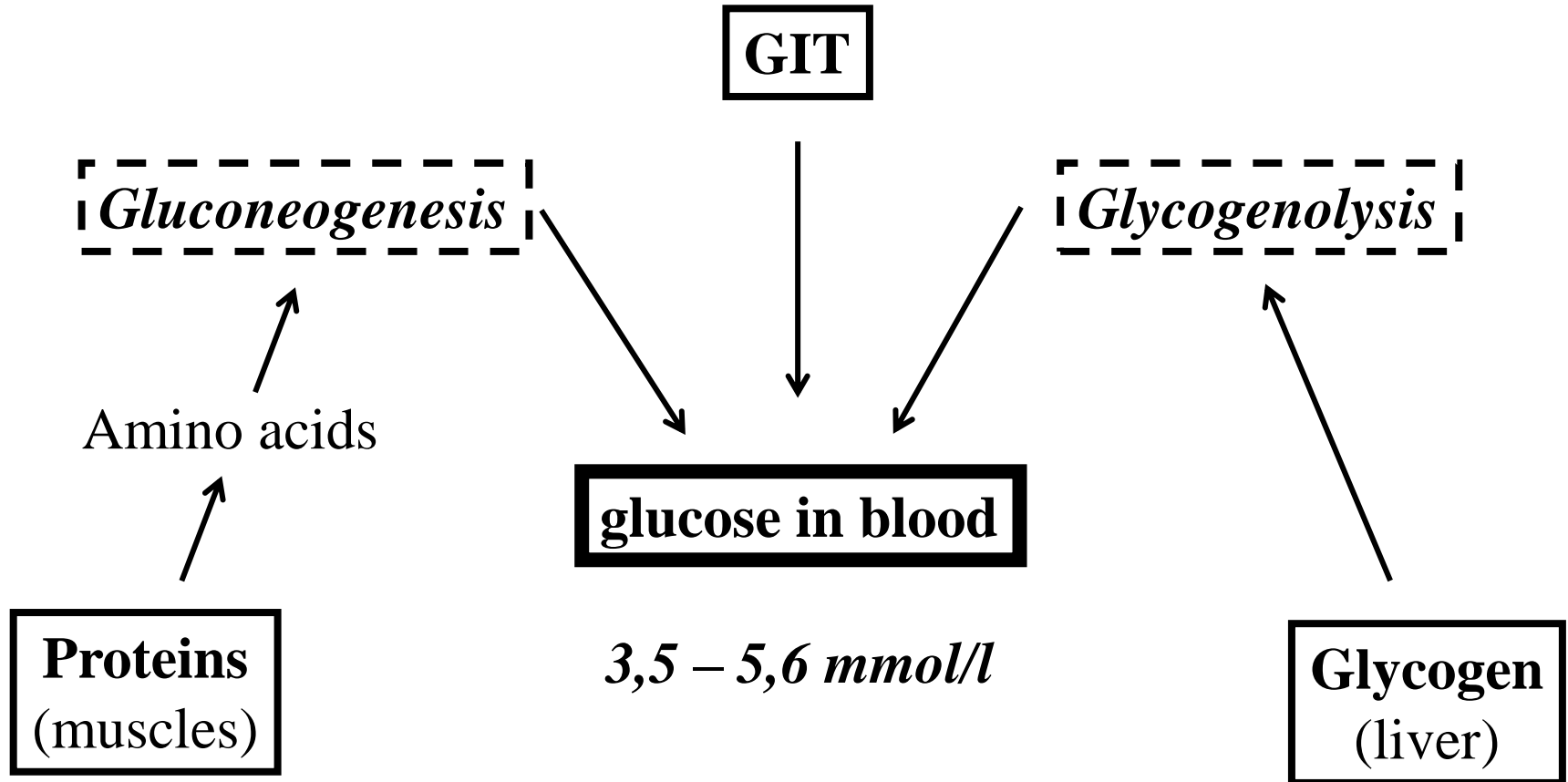


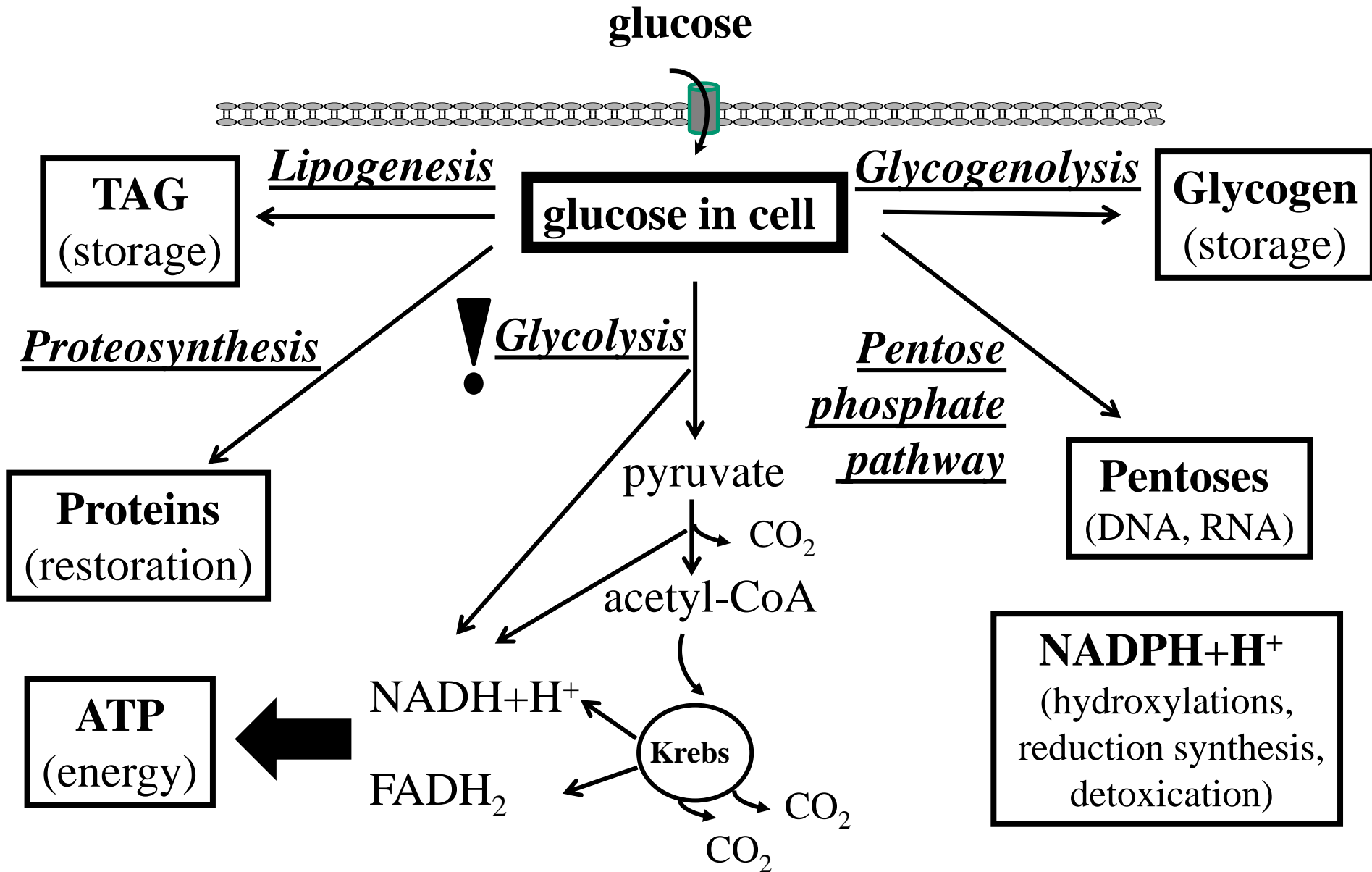
# **Aerobic and anaerobic oxidation of glucose**

4<sup>th</sup> week

# Metabolic changes of glucose



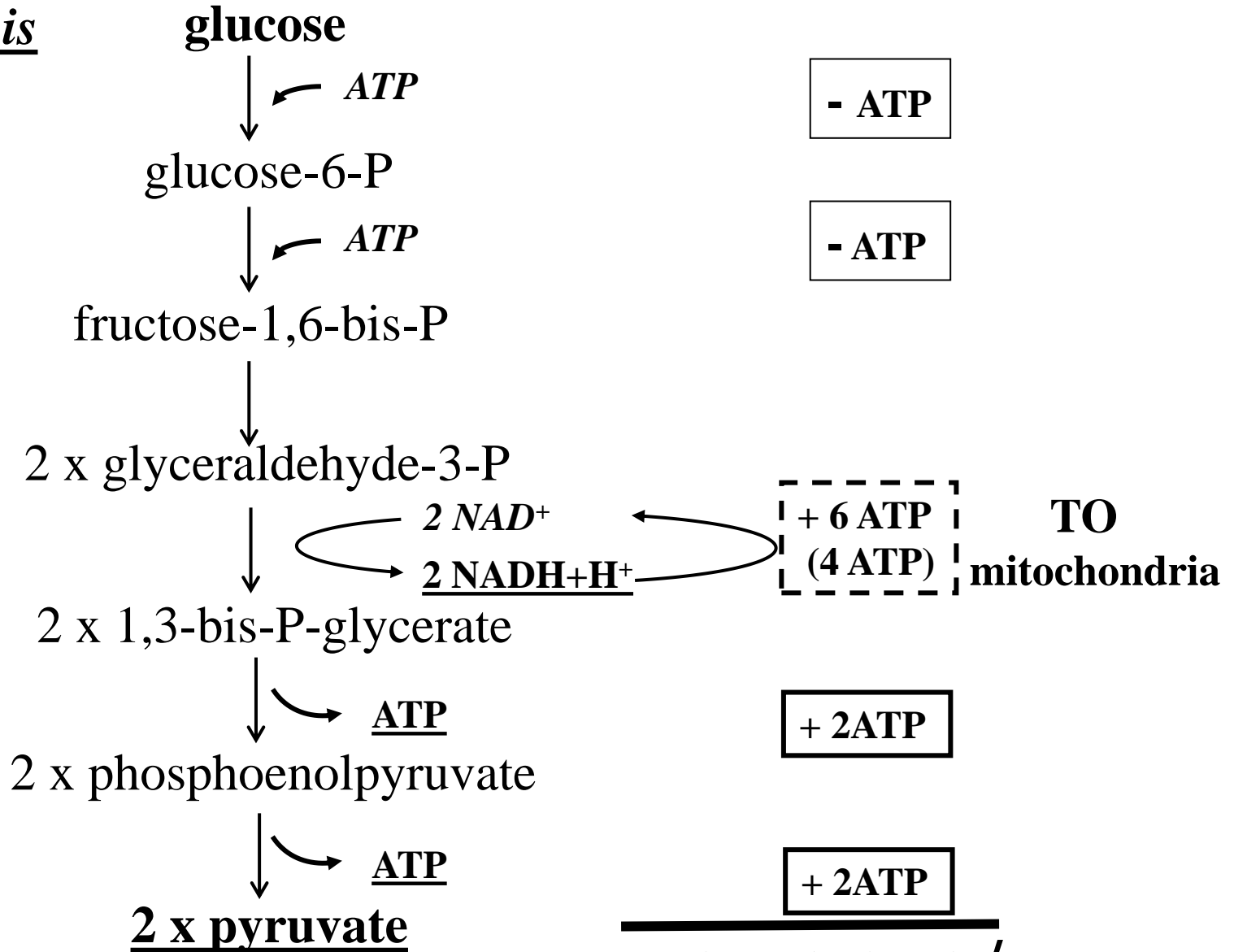
# Metabolic changes of glucose



# Aerobic oxidation of glucose (O<sub>2</sub>)

## 1. Glycolysis

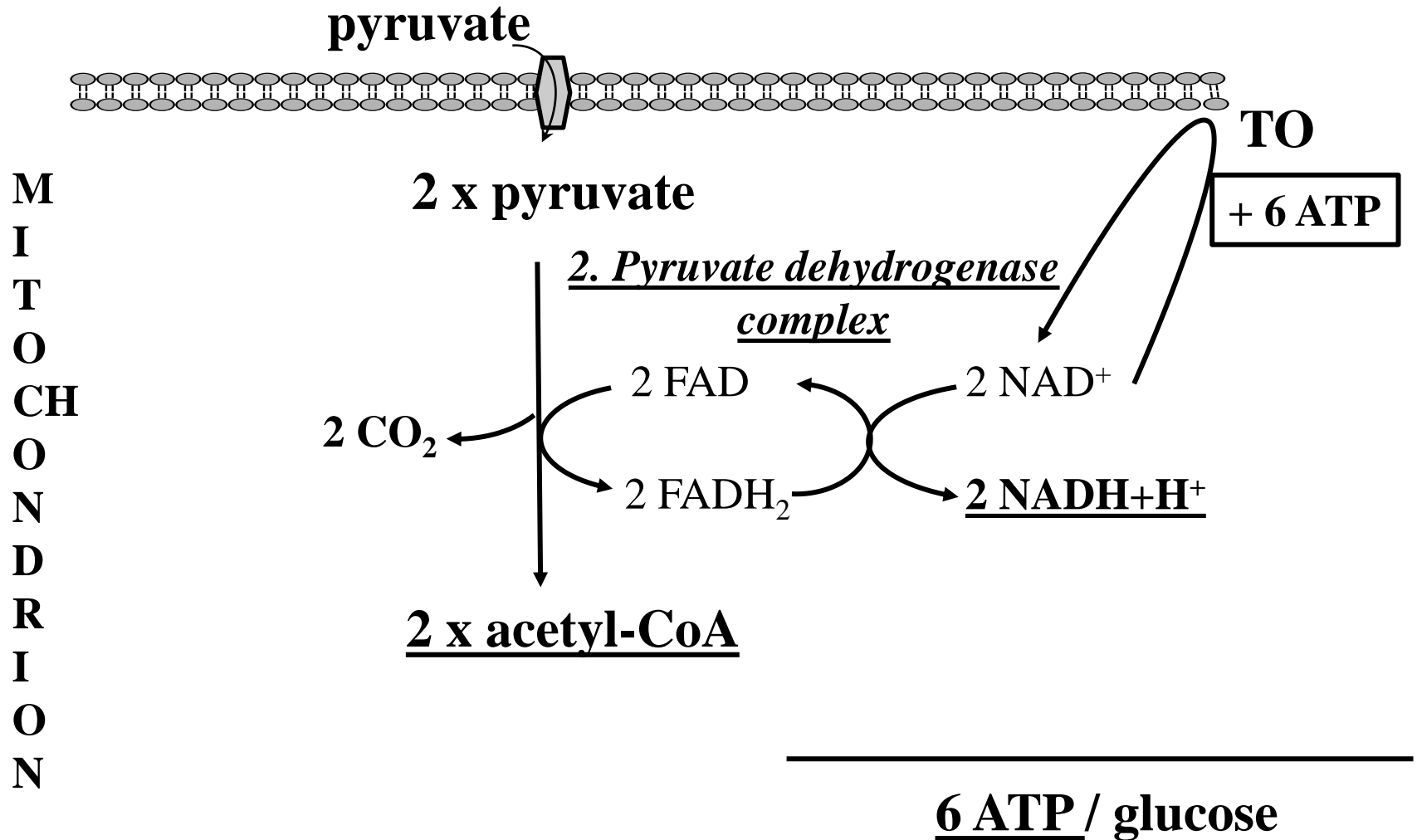
C  
Y  
T  
O  
P  
L  
A  
S  
M



*TO = terminal oxidation*

**8 ATP (6 ATP) / glucose**

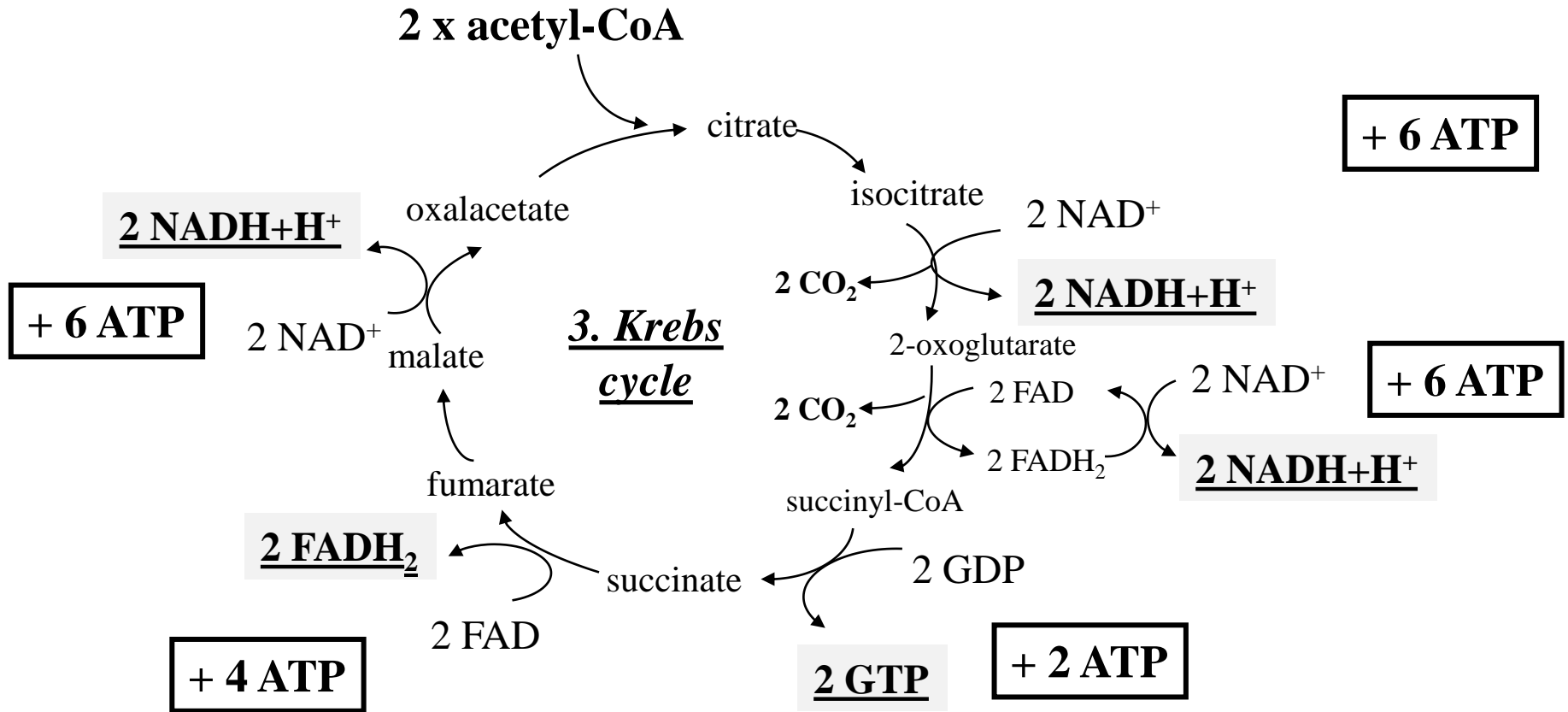
# Aerobic oxidation of glucose ( $O_2$ )



M  
I  
T  
O  
C  
H  
O  
N  
D  
R  
I  
O  
N

*TO = terminal oxidation*

# Aerobic oxidation of glucose ( $O_2$ )

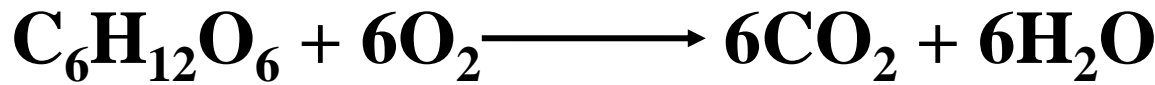


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**24 ATP / glucose**

# Complete aerobic oxidation of glucose

ATP /  
1 glucose



38 (36) ATP

- glycolysis (substrate-level phosphorylation).....4 ATP
- glycolysis - from 2 NADH+H<sup>+</sup> (TO) .....6 (4) ATP
- *ATP consumption in glycolysis*.....- 2 ATP
- ATP (net) after aerobic glycolysis.....8 (6) ATP
- pyruvate dehydrogenase complex .....6 ATP
- Krebs cycle.....24 ATP

# Anaerobic oxidation of glucose (without O<sub>2</sub>)

## Glycolysis

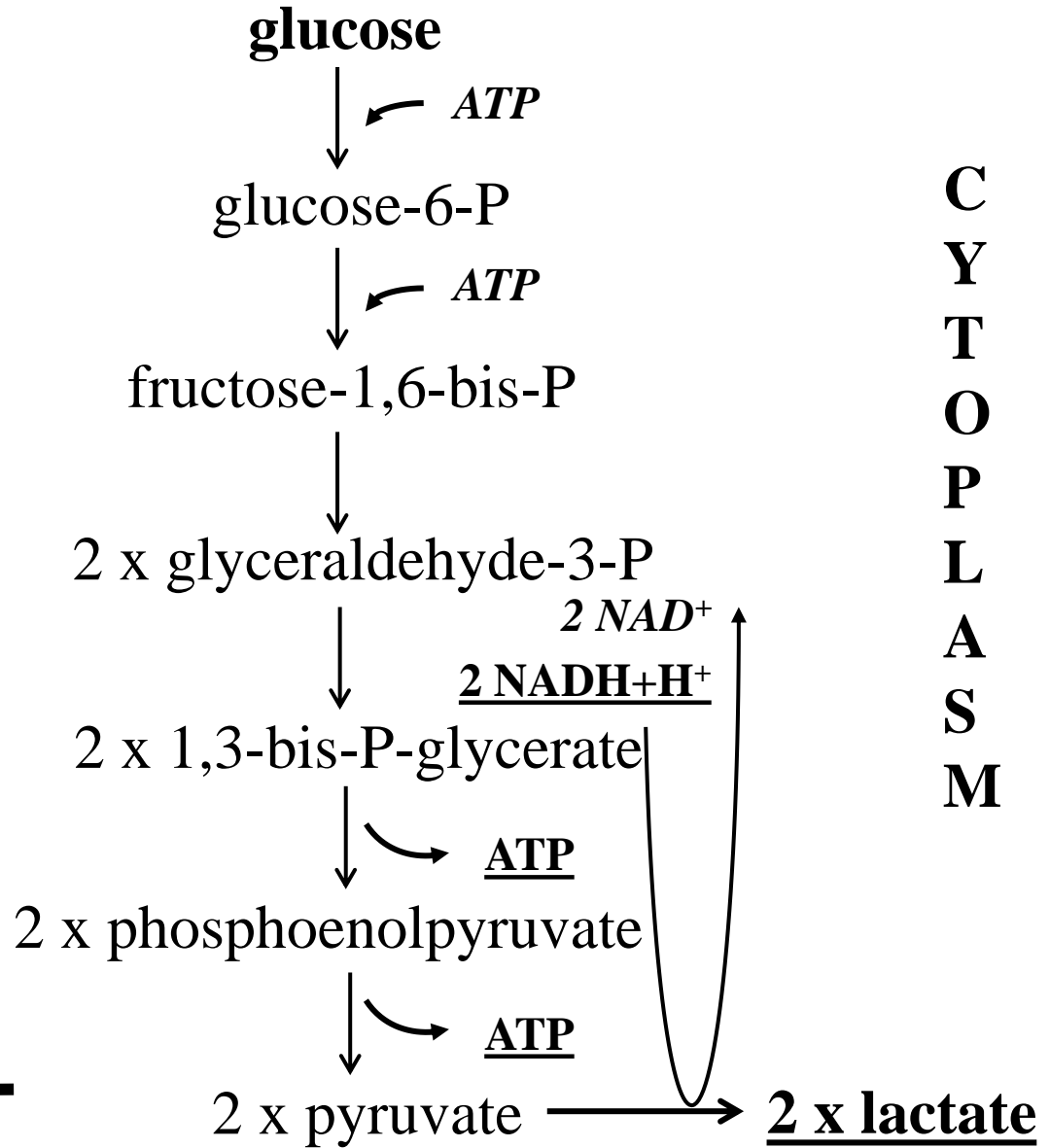
- ATP

- ATP

+ 2ATP

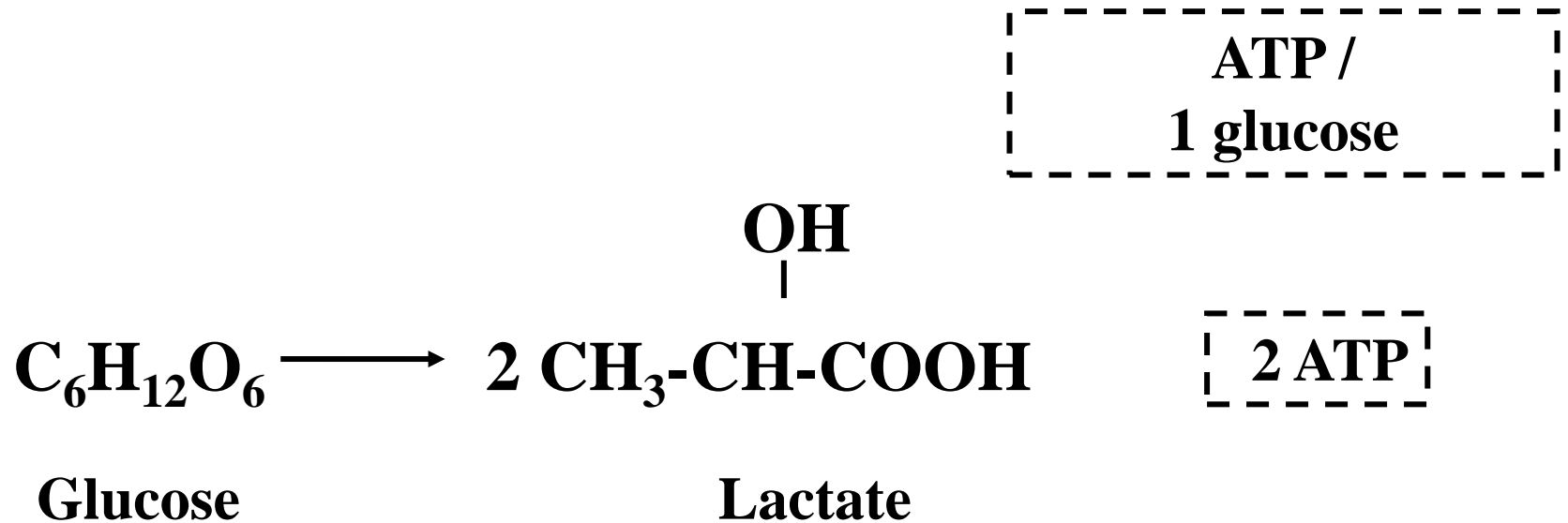
+ 2ATP

2 ATP / glucose





# Anaerobic oxidation of glucose = Anaerobic glycolysis



# Cori cycle

