

Lactate

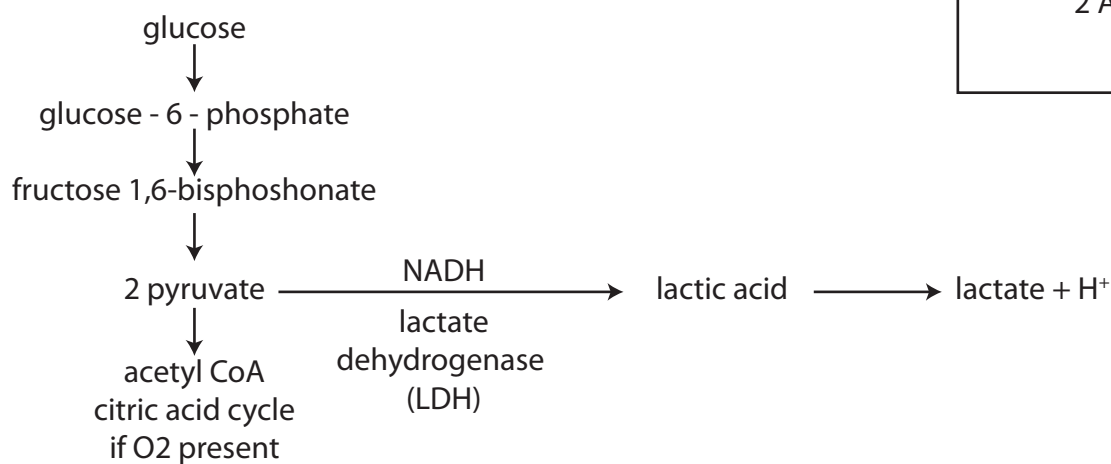
normal plasma level is <2.0 mmol/L
 normal production is approximately 1400 mmol/day
 produced mainly in skin, gut, muscle, brain and erythrocytes
 peripheral production and its metabolism in the liver is known as the cori cycle

Lactate production (muscle)

production rate is determined by the amount of NADH

Net ATP production

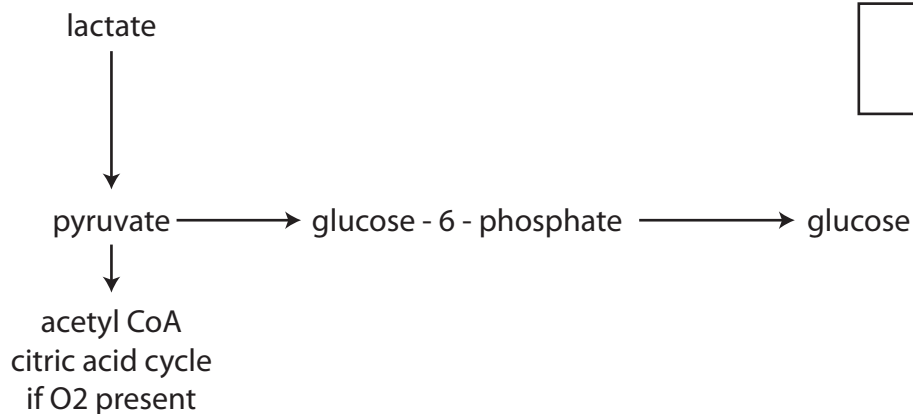
2 ATP



Lactate metabolism (liver)

lactate is transported to the liver via plasma where it is converted to glucose by gluconeogenesis

Net ATP cost
6 ATP



Lactic acidosis occurs from

excessive production

Type A tissue hypoxia eg exercise, convulsions

Type B other eg inborn errors of metabolism, toxins, malignancy

impaired hepatic metabolism

reduced blood flow, diabetes, toxicity