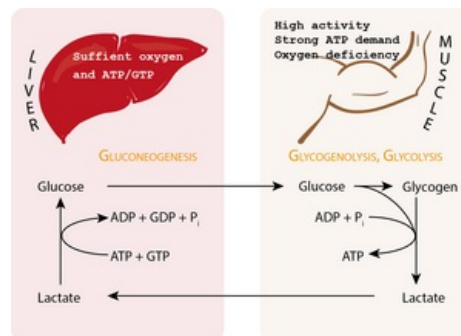


# Cori cycle

## Cori cycle

A working muscle obtains ATP mainly through anaerobic glycolysis – lactate prevails over pyruvate in the muscle cell. Lactate is released into the bloodstream and taken up by liver cells. In hepatocytes, it is oxidized to pyruvate (LD) under aerobic conditions. Pyruvate can then be used in gluconeogenesis and the glucose created can be released into the blood and from there enter the muscle cell. The liver supplies glucose directly to the working muscle.



## Glucose-alanine cycle

Interconversion of alanine and pyruvate in the muscle, in the liver associated with gluconeogenesis and proteolysis. It serves to transport ammonia (created in the muscle, e.g. by degradation of amino acids) to the liver. Less energy efficient than the Cori cycle (energy consumption for urea synthesis).

- in the muscle:

Degradation of proteins and release of amino acids - these can be used for the synthesis of glucose (glucoplastic) or can be degraded. Transamination with 2-oxoglutarate / oxaloacetate / pyruvate - formation of alanine. Alanine is released into the blood.

- in the liver:

Transamination of alanine with 2-oxoglutarate - formation of pyruvate and glutamic acid. Pyruvate is used in gluconeogenesis, L-glutamate for urea synthesis.

The significance of this event lies in the fact that the muscles are indirectly capable of gluconeogenesis and thereby contribute to the formation of glucose.

## Links

### Related articles

- Urea cycle
- Glycolysis
- Gluconeogenesis

### External links

- Cori cycle (czech wikipedia)
- Cori cycle (english wikipedia)

### Literature

- TURECKY, Ladislav, et al. *Medical Biochemistry I-*. 4th edition. 2011. 244 pp. ISBN 978-80-223-3105-0 .