

## Muscle Metabolism

Muscles have high demand for ATP

energy for myosin head recharge, sr  $\text{Ca}^{++}$  pump, sarcolemma  $\text{Na}^+/\text{K}^+\text{ATPase}$ ...

ATP consumption:

$\text{ATP} \rightarrow \text{ADP} + \text{P}_i + \text{Energy}$

Muscles store little ATP yet can sustain activity for long periods

ATP must be produced and consumed rapidly

Need enzymes to make new ATP or restore via phosphorylation of ADP ( $\text{ADP} + \text{P} \rightarrow \text{ATP}$ )

## Muscle energy supply

Muscle fibers store **glycogen** as energy source

polymer of glucose

Also import fatty acids, glucose from blood

