ATP as the energy currency of the cell

Adenosine triphosphate



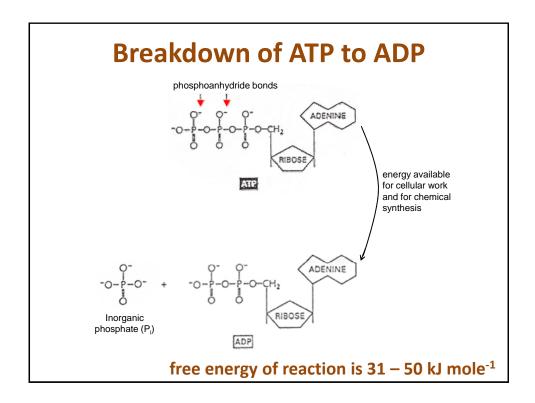
ATP as the energy currency of the cell

Adenosine triphosphate



- Chemically stable at pH 6-9
- Structural features recognised by specific proteins, enzymes, etc

Hydrolysis gives ADP + O=P - OH + H⁺ + 'energy'
O(P₁)



Functions of ATP

• Used directly in cell motility and contraction

$$\begin{array}{c} \mathsf{ATP} & \longrightarrow & \mathsf{ADP} \; + \; \mathsf{P_i} \\ & \mathsf{myosin} \\ & \mathsf{dynein} \end{array}$$

 Used in Na+ / K+ pumps, active transport systems & metabolic control



Functions of ATP

Used in metabolism to add P_i to metabolic intermediates