



## ATP Synthesis

All life on earth depends on this tiny energetic molecule: adenosine triphosphate, or ATP. ATP drives biochemical activity inside your living cells and is a key building block of DNA and RNA. Generating ATP for your living cells are mitochondria, electrochemical batteries that convert energy from the food you eat, and oxygen from the air you breathe, into ATP.

So where does your ATP come from? Deep inside your mitochondria, rows of molecular motors generate ATP, the molecule essential to all life on earth.

Enzymes bring together reactants to form a chemical bond, converting mechanical energy into chemical energy. A ring of enzymes work in step, creating three molecules of ATP with each cycle.

Inside the molecular motor, a rotating axle powers the sequence. The axle is attached to a rotary molecular motor, moved by the force of protons pushing from the other side of the membrane. A difference in proton concentration propels the molecular mechanism.

Synthesis of ATP.

ATP drives biochemical activity inside your living cells and is a key building block of DNA and RNA.