

## Mitochondria

**Mitochondria** are thread-like structures within the cytoplasm that provide most of the body's ATP, which fuels many cellular activities.

Major Cell Structures	
Cell Structure	Description/Function
<b>Membranous</b>	
Plasma membrane	Serves as a boundary of the cell, maintaining its integrity; protein molecules embedded in plasma membrane perform various functions
Endoplasmic reticulum	Ribosomes attached to rough ER synthesize proteins that leave cells via the Golgi complex; smooth ER synthesizes lipids incorporated in cell membranes, steroid hormones, and certain carbohydrates used to form glycoproteins
Golgi apparatus	Composed of membranous sacs; synthesize carbohydrates, combines it with protein, and packages the product as globules of glycoprotein
Lysosomes	A cell's "digestive system"
Peroxisomes	Contain enzymes that detoxify harmful substances
Mitochondria	Double membranous structure; catabolism; ATP synthesis; cell's "power plants"
Nucleus	Houses the genetic code, which in turn dictates protein synthesis
<b>Nonmembranous</b>	
Ribosomes	Site of mRNA attachment and amino acid assembly ( <i>protein synthesis</i> )
Cytoskeleton	Acts as a framework to support the cell and its organelles; functions in cell movement; forms cell extensions ( <i>microvilli, cilia, flagella</i> )
Nucleolus	Plays an essential role in the formation of ribosomes