

Cell Structure and Function

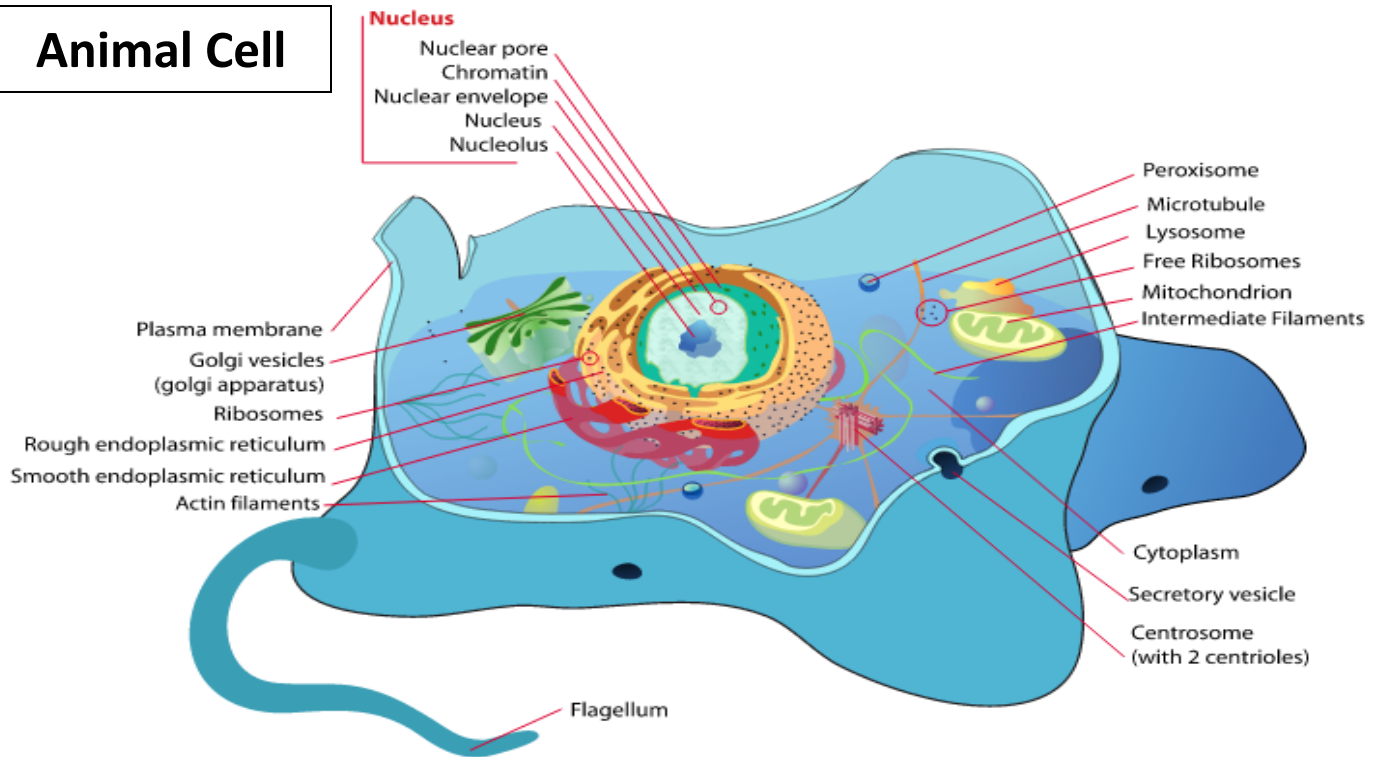
Table of Cell Organelles and Functions

For the audio version of the file, click this link: [Cell Structure and Function Audio](#)

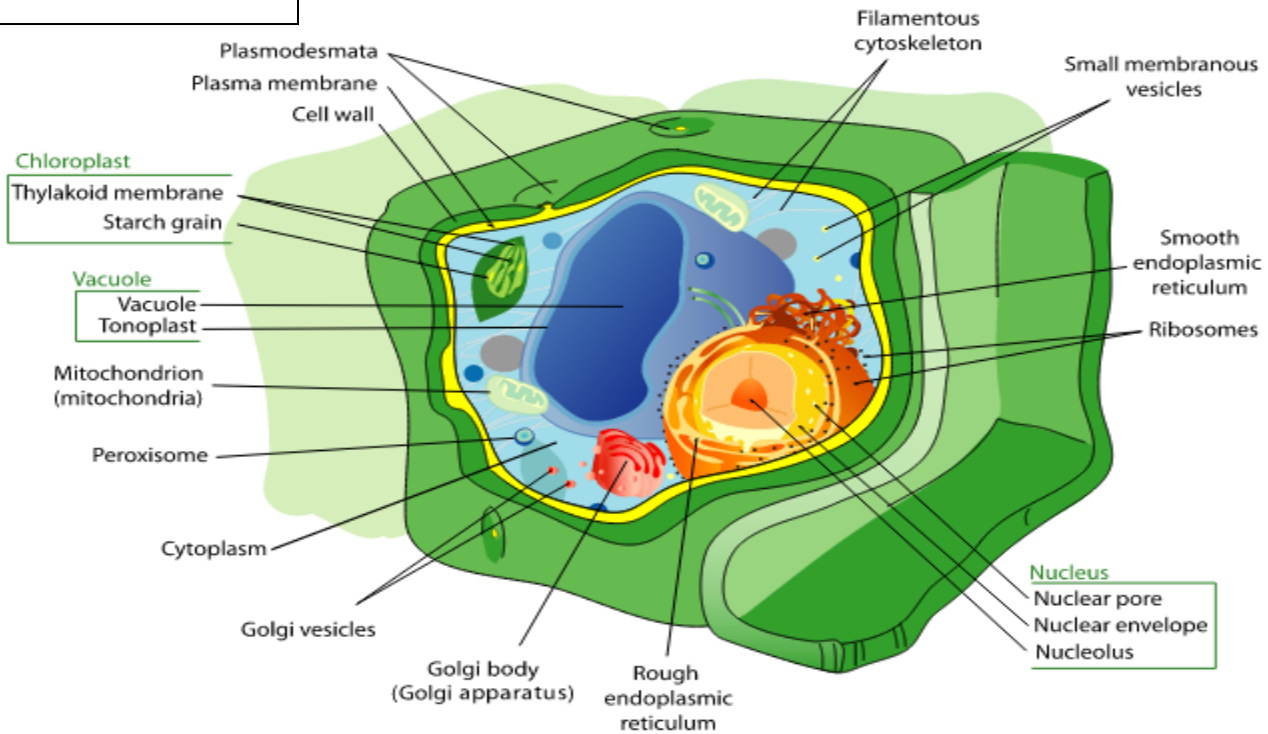
Organelle	Membrane	Components	Function	P, A, Both?	Pro, Eu, Both?
Endomembrane System					
Rough ER	Single w/receptors	Branching Sacs	Protein Processing	Both	Eukaryotic
		Ribosomes	Protein Synthesis		
Smooth ER	Single	Branching Sacs	Calcium Storage	Both	Eukaryotic
		Enzymes	Lipid Synthesis		
Golgi Apparatus	Single w/receptors	Stack of flat sacs	Protein Processing	Both	Eukaryotic
			"Post Office" of Cell		
Lysosomes	Single w/proton pumps	Enzymes	Digestion/Recycling	Animal	Eukaryotic
Nucleus					
Nucleus	Double ("envelope") Openings called "pores"	Chromosomes	Genetic Info	Both	Eukaryotic
		Nucleolus	Ribosome Factory		
		Nuclear Lamina	Structural Support		
Ribosomes	None	RNA/Proteins	Protein Synthesis	Both	Both
Peroxisomes	Single w/transporters	Enzymes	Oxidation Reactions	Both	Eukaryotic
			Process peroxide		
Vacuoles	Single w/transporters	Pigments, Oils,	Coloration	Plant	Eukaryotic
		Carbs, Water,	Storage		
		Toxins			
Mitochondria	Double; Inner and Outer Folds = Cristae	Enzymes	ATP Synthesis	Both	Eukaryotic
			Cellular Respiration		
Chloroplasts	Double; Thylakoids --> Granum	Pigments	ATP and Sugar Synth	Plants	Eukaryotic
		Enzymes	via Photosynthesis		
Cytoskeleton	None	Actin Filaments	Structural support	Both	Both
		Intermediate	Movement of materials		
		Microtubules	Move whole cell		
Plasma Membrane	Single w/ transport and receptor proteins	Phospholipid bilayer transport & receptor proteins	Selective permeability	Both	Both
			Maintains intracellular environment		
Cell Wall	None	Carbohydrate fibers	Protection, structural support	Plants	Both
Centrosome	None	Centrioles	Microtubule initiation	Animal	Eukaryotic
			Mitotic Spindle		
Cytosol	None	Water, Ions	Internal environment	Both	Both
		Macromolecules	Hold things in place		
Key	P = Plant	A = Animal	Pro = Prokaryotic	Eu = Eukaryotic	

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Animal Cell



Plant Cell



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