

Cell Structure and Function

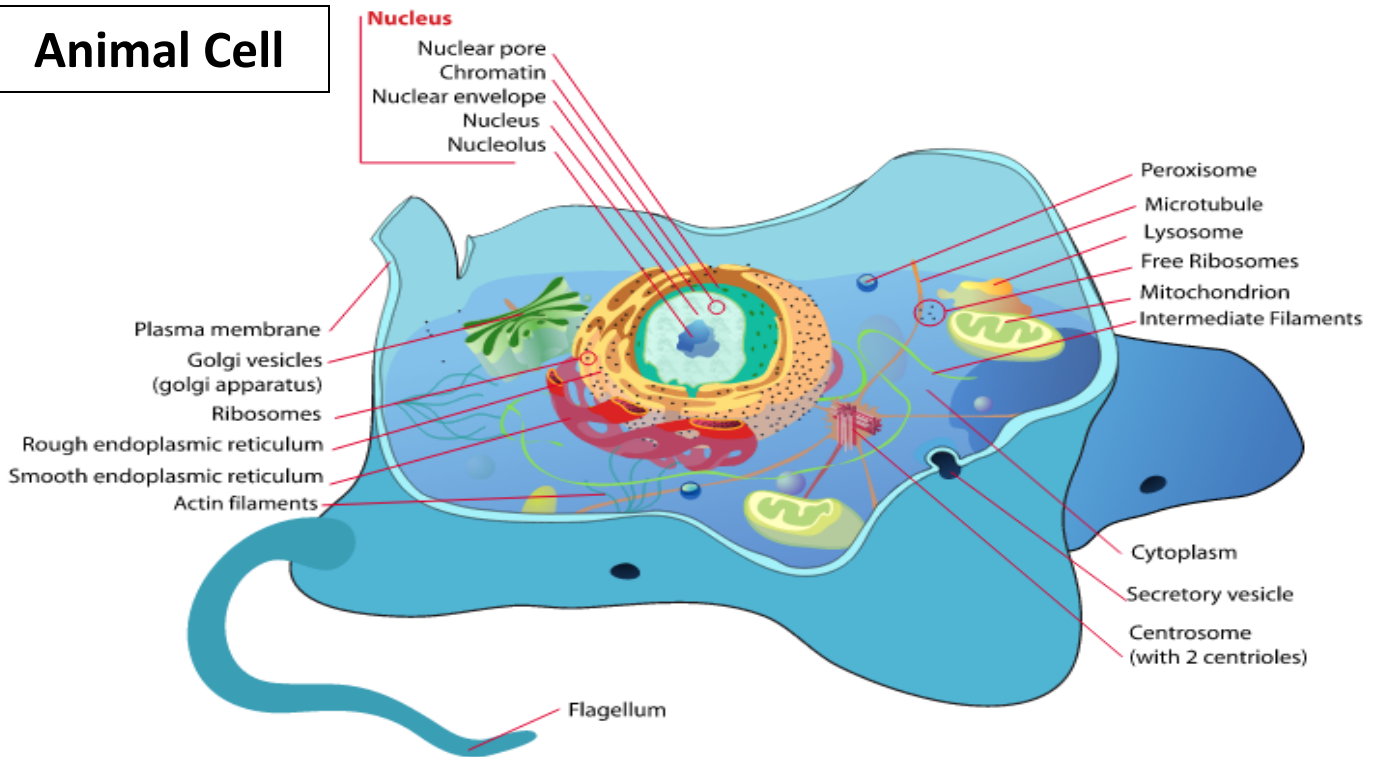
Table of Cell Organelles and Functions

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

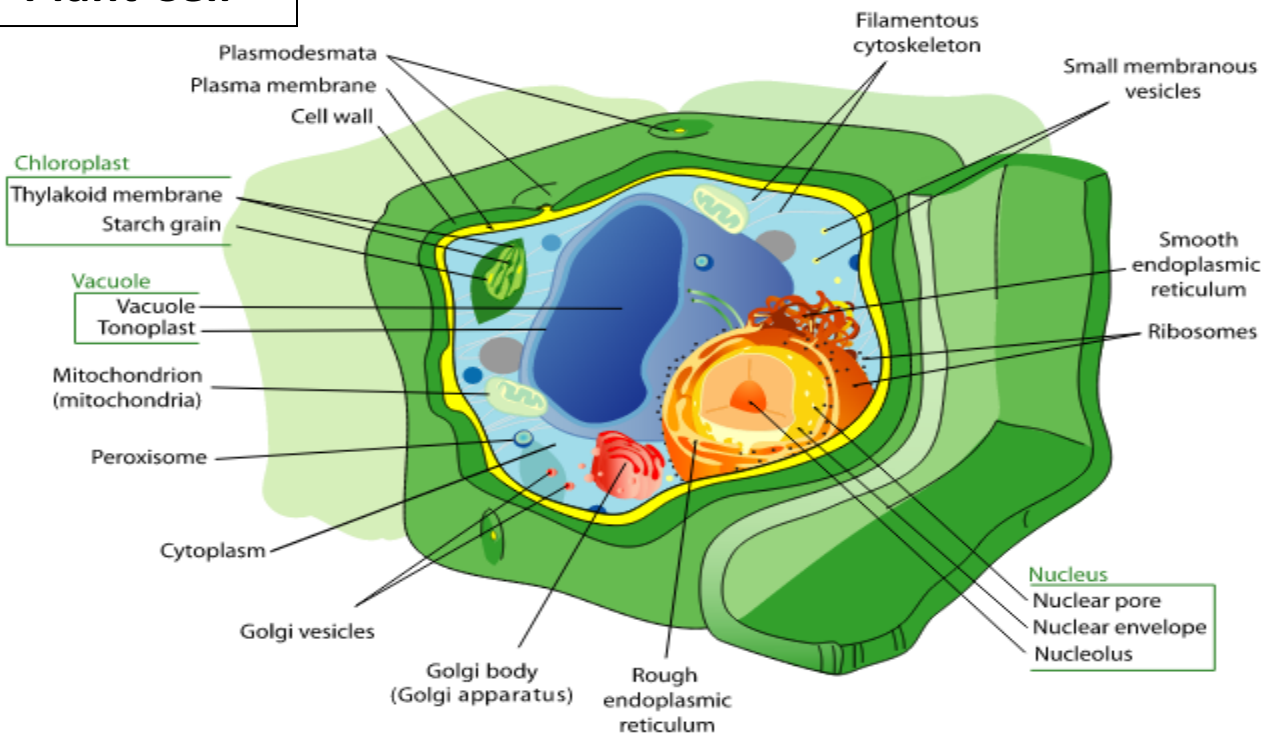
Organelle	Membrane	Components	Function	P, A, Both?	Pro, Eu, Both?
Endomembrane System					
Rough ER	Single w/receptors	Branching Sacs Ribosomes	Protein Processing Protein Synthesis	Both	Eukaryotic
Smooth ER	Single	Branching Sacs Enzymes	Calcium Storage Lipid Synthesis	Both	Eukaryotic
Golgi Apparatus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

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Animal Cell



Plant Cell



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