

Introduction

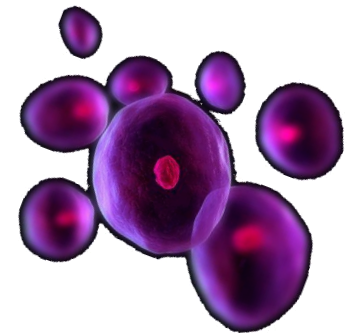
Cell has three generalization.

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All organisms are composed of one or more cells.

The cell is the smallest unit having the properties of life.

All cells come from pre-existing cells.



Characteristics of Prokaryotic and Eukaryotic Cells

1 Small Prokaryotic Cells are Simple but Fast

- Small cells such as bacteria divide fast (20 min)- due to the high surface/volume ratio
- Size: mycoplasmas : 0.1-1 micron dia.; other bacteria 1-10 micron dia.
- Have no nucleus: DNA less protected, mutates faster.
- One compartment- like a chem lab with a single beaker
- Most have a rigid cell wall
- May have a capsule outside the cell wall, pili (for attachment), flagella (for motion)

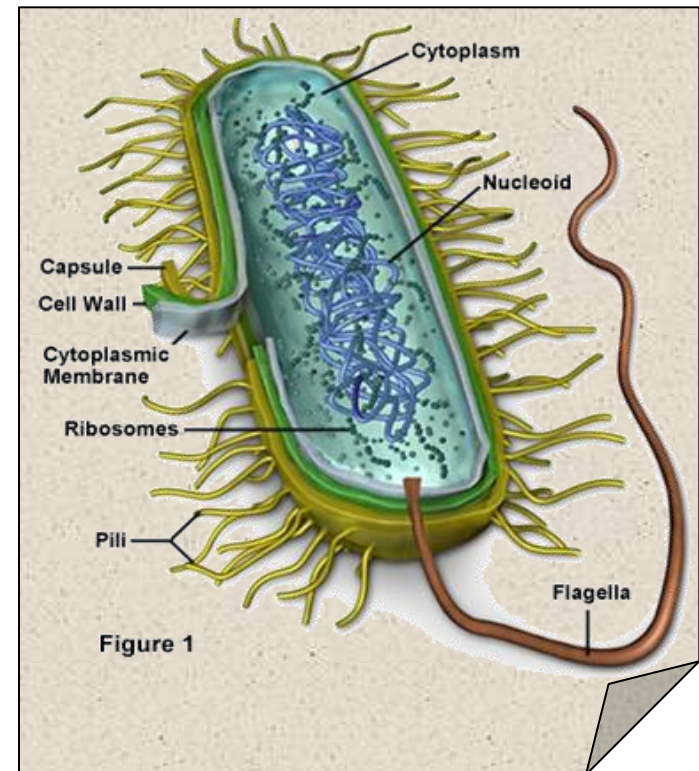


Figure 1

Prokaryotic vs Eukaryotic Cells

[Click on each button to see the differences between prokaryotic and eukaryotic cells.]

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DNA

Size

Organization

Metabolism

Organelles



Usually small

Prokaryotic Cell



Usually larger

Eukaryotic Cell

Prokaryotic vs Eukaryotic Cells

[Click on each button to see the differences between prokaryotic and eukaryotic cells.]

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DNA

Size

Organization

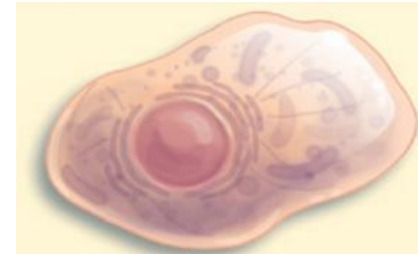
Metabolism

Organelles



No membrane-bound organelles

Prokaryotic Cell



Have membrane-bound organelles

Eukaryotic Cell

References

- Gerald Karp (2005). *Cell and Molecular Biology Concepts and Experiments* (3rd Ed). John Wiley & Sons, Inc.
- Cecie Starr & Beverly McMillan (2007). *Human Biology* (7th Ed). Thomson Brooks/Cole
- Sylvia S. Mader (2004). *Human Biology* (8th Ed). McGraw Hill

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Appendix

Figure	Source
Fig.1	http://babygearworld.com/wp-content/uploads/2010/04/Your-Role-as-a-Family-Member.jpg
Fig.2	http://foodfreedom.files.wordpress.com/2011/02/accacia-pycnantha-oz-natl-flower.jpg
Fig.3	http://www.pictures-of-cats.org/images/skookum-kewpie-cats-middle.jpg
Fig.4	http://www.futurity.org/wp-content/uploads/2010/09/cells_1.jpg
Fig.5	http://www.nslc.wustl.edu/courses/Bio2960/labs/04/Organelle/dualcelA.jpg
Fig.6	http://www.labessentials.com/Obs._2D.jpg

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