

## Eukaryotic & Prokaryotic Comparison

### EUKARYOTES

### PROKARYOTES

#### DNA

- many linear molecules
- ~1000x more bp
- within nucleus
- histone proteins
- introns

- single circular molecule
- smaller genome
- nucleoid region
- few/no proteins
- no introns (some archae)
- may contain plasmid  
(small loop of few genes)

#### CELL WALL

- Cellulose and/or Chitin

- Peptidoglycans  
(sugars with cross-linking proteins)

#### RIBOSOMES

- Larger
- Free or attached

- smaller
- free only (or attached to cell membrane)

- Transcription/translation are separate

- transcription/translation simultaneous
- antibiotic sensitivity

- Differing RNA's and proteins

#### MISC

- Flagellum larger and complex

- Flagellum simpler
- May have capsule  
(sticky coating for adherence to surface)
- May have pili  
(short projections for adherence)