**Difference between prokaryotic and eukaryotic cell**

| **BASIS FOR COMPARISON** | **PROKARYOTIC CELLS** | **EUKARYOTIC CELLS** |
| --- | --- | --- |
| Size | 0.5-3um | 2-100um |
| Kind of Cell | Single-cell | Multicellular |
| Cell Wall | Cell wall present, comprise of peptidoglycan or mucopeptide (polysaccharide). | Usually cell wall absent, if present (plant cells and fungus), comprises of cellulose (polysaccharide). |
| Presence of Nucleus | Well-defined nucleus is absent, rather 'nucleoid' is present which is an open region containing DNA. | A well-defined nucleus is present enclosed within nuclear memebrane. |
| Shape of DNA | Circular, double-stranded DNA. | Linear, double-stranded DNA. |
| Mitochondria | Absent | Present |
| Ribosome | 70S | 80S |
| Golgi Apparatus | Absent | Present |
| Endoplasmic Reticulum | Absent | Present |
| Mode of Reproduction | Asexual | Most commonly sexual |
| Cell Divison | Binary Fission,(conjugation, transformation, transduction) | Mitosis |
| Lysosomes and Peroxisomes | Absent | Present |
| Chloroplast | (Absent) scattered in the cytoplasm. | Present in plants, algae. |
| Transcription and Translation | Occurs together. | Transcription occurs in nucleus and translation in cytosol. |
| Organelles | Organelles are not membrane bound, if present any. | Organelles are membrane bound and are specific in function. |
| Replication | Single origin of replication. | Multiple origins of replication. |
| Number of Chromosomes | Only one (not true called as a plasmid). | More than one. |
| Examples | Archaea, Bacteria. | Plants and Animals. |