

Table of differences between Archaea, Bacteria and Eukaryotes

Characteristic	Bacteria	Archaea	Eukaryotes
Predominantly multicellular	No	No	Yes
Cell contains a nucleus and other membrane bound organelles	No	No	Yes
DNA occurs in a circular form*	Yes	Yes	No
Ribosome size	70s	70s	80s
Membrane lipids ester-linked**	Yes	No	Yes
Photosynthesis with chlorophyll	Yes	No	Yes
Capable of growth at temperatures greater than 80 C	Yes	Yes	No
Histone proteins present in cell	No	Yes	Yes
Methionine used as tRNA Initiator***	Yes	Yes	Yes
Operons present in DNA	Yes	Yes	No
Introns present in most genes	No	No	Yes
Capping and poly-A tailing of mRNA	No	No	Yes
Gas vesicles present	Yes	Yes	No
Capable of Methanogenesis	No	Yes	No
Sensitive to chloramphenicol, kanamycin and streptomycin	Yes	No	No
Transcription factors required	Yes	No	Yes
Capable of Nitrification	Yes	No	No
Capable of Denitrification	Yes	Yes	No
Capable of Nitrogen Fixation	Yes	Yes	No
Capable of Chemolithotrophy	Yes	Yes	No
* Eukaryote DNA is linear			
** Archaea membrane lipids are ether-(isoprenoid)-linked			
http://www.bio.miami.edu/~cmallery/150/proceuc/archaea.isoprenoid.jpg			
*** Bacteria, mitochondria & chloroplasts use N-formylmethionine			
cytosolic eukaryotes & Archaea do not use fMet, but rather just MET.			
http://en.wikipedia.org/wiki/N-Formylmethionine			