

Mycoplasma

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Introduction

- Mycoplasm refers to a genus of bacteria that lack a cell wall.
- Without a cell wall, they are unaffected by many common antibiotics such as penicillin or other beta-lactam antibiotics that target cell wall synthesis.
- Several species are pathogenic in humans, including *M. pneumoniae*, which is an important cause of typical pneumonia and other respiratory disorders.
- Mycoplasm are the smallest living cells yet discovered

History

- Mycoplasma were discovered in – 1898 by Pasteur, in Pleural fluid of Cattle suffering from Pleuropneumonia and therefore called Pleuropneumonia like organism (PPLO)
- Growing in culture medium – 1898 by Nocard and Roux

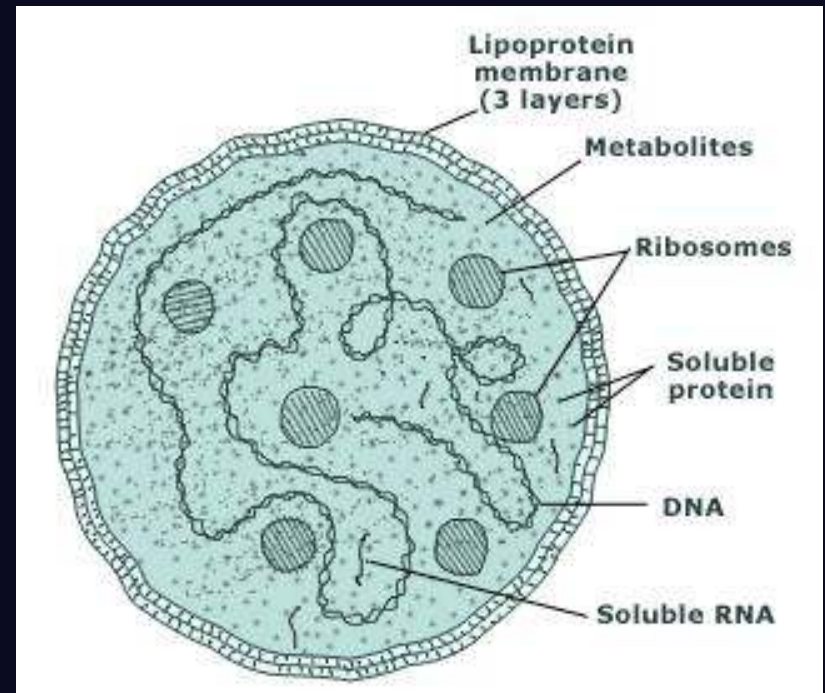
Size and Shape

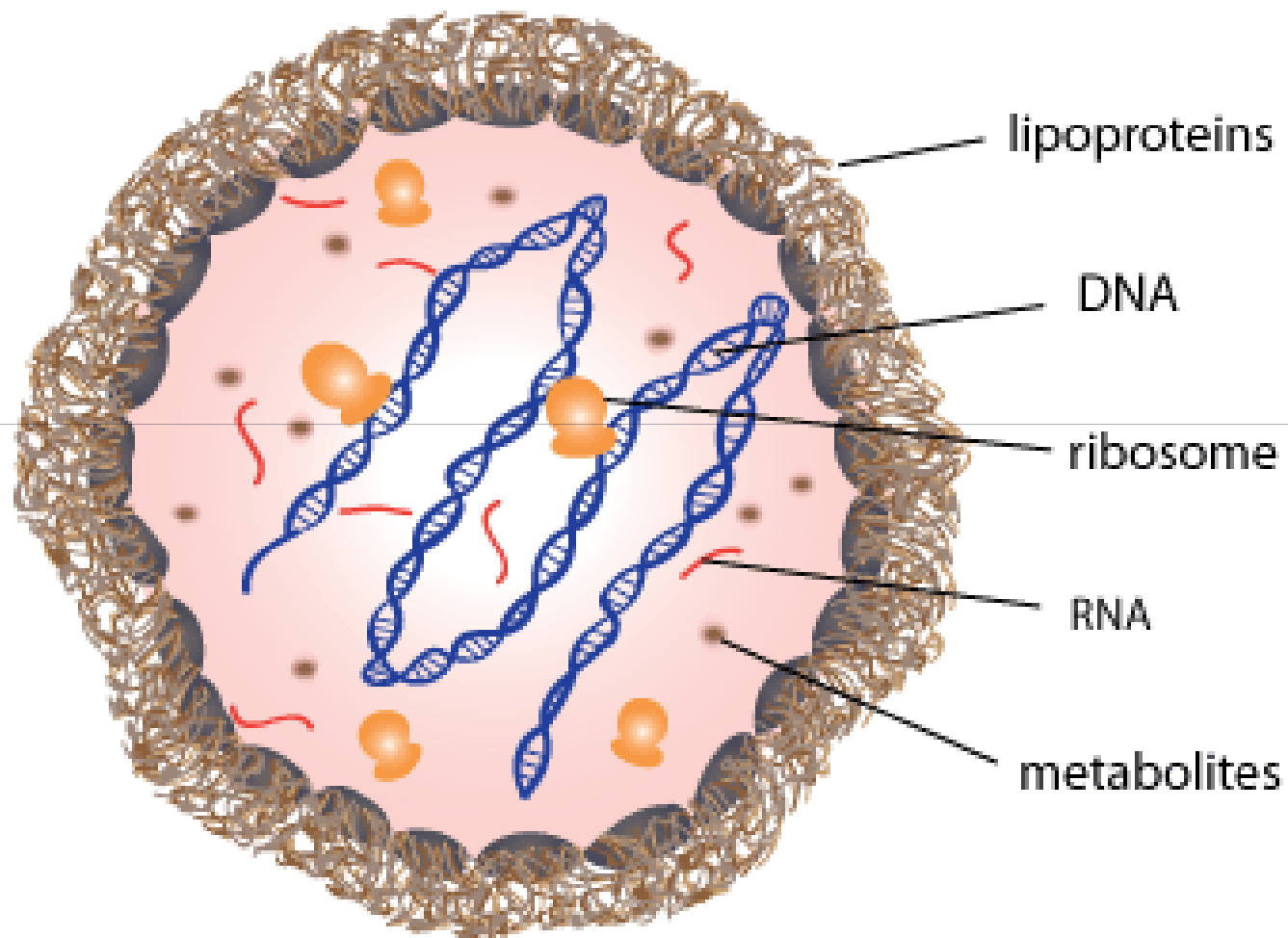
- Diameters of these organisms may range from 0.1-0.3 μm .
- Due to their plasticity, are able to pass through the pores of a 0.2 micron filter.
- Coccoidal,
- Spherical and filamentous,



Structure

- Outside – Trilamellar Unit membrane structure
- Protoplasmic matrix – Enclosed by outer membrane, which contain Ribosomes, proteins, free RNA, some fatty substances etc.
- Genetic material – Single DS DNA
- Ribosomes – 70S



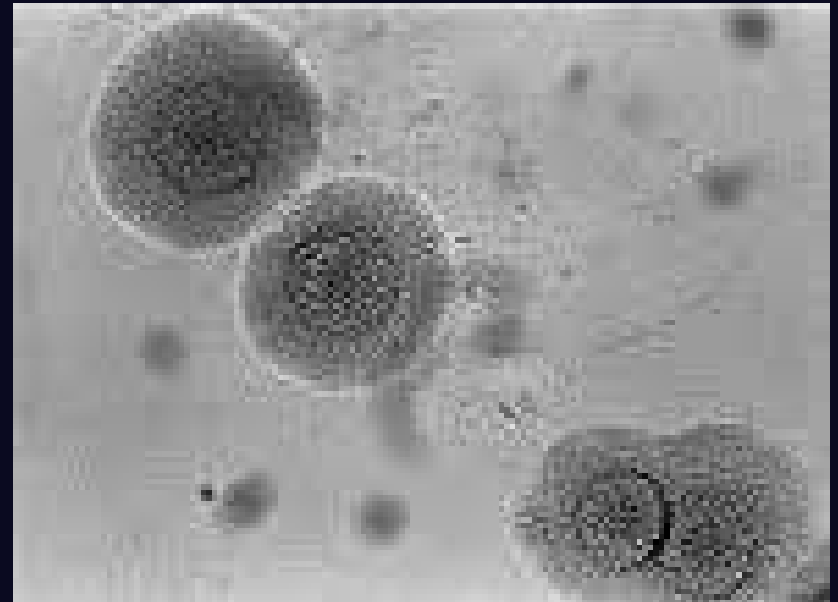


Structural feature

- Absence of cell wall makes it highly elastic.
- Therefore it can be found in various shapes.
- Mostly non-motile, but few of them show gliding motility.
- They lack – organised nucleus, ER, Plastids, mitochondria, Golgi body, lysosome, flagella.

Reproduction

- Mycoplasma may reproduce by –
- Binary fission
- Budding
- Formation of small elementary unit inside the cell.
- The minute body then increases to become large body
- Several elementary bodies then release by rupture the membrane of large body.



Disease caused by Mycoplasma

- Humans and Animals
 - Rheumatism
 - Arthritis
 - Several respiratory diseases
 - Primary Pneumonia
 - Infertility in males

Disease caused by Mycoplasma

- Plants
- Transmission by
 - leafhopper,
 - Mites and
 - Flies
- Diseases -
 - Mulberry dwarf
 - Bunchy top of Papaya
 - Little leaf of Brinjal
 - Maize stunt
 - Potato witches brown



Thankyou