

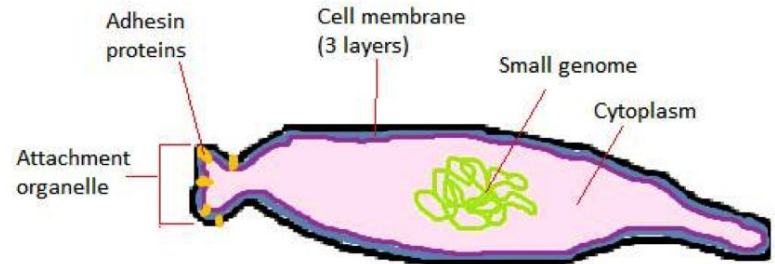
Family: Mycoplasmatace
ae

Genus: *Mycoplasma*

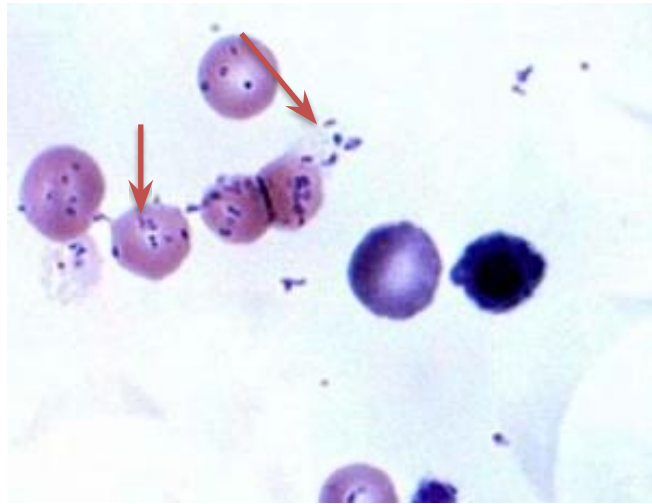
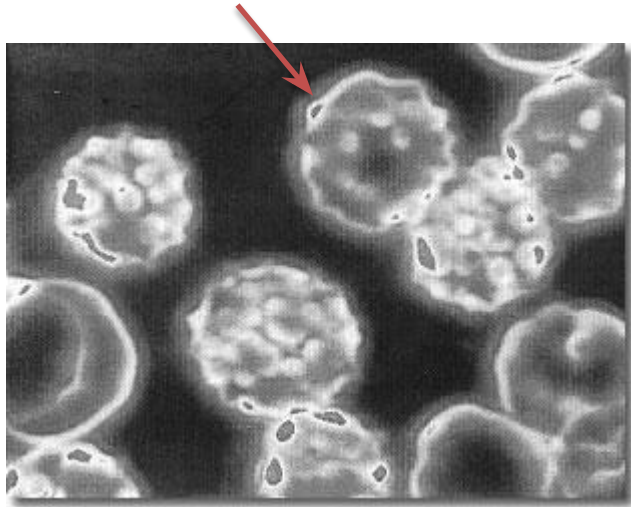
Species: *M. pneumoniae*, *M. hominis*,
M. genitalium

Characteristic

- *Mycoplasma* species are the smallest free-living organisms. These organisms are unique among prokaryotes in that they lack a cell wall, a feature largely responsible for their biologic properties such as their lack of a reaction to Gram stain and their lack of susceptibility to many commonly prescribed antimicrobial agents, including beta-lactams.



Mycoplasma is parasite of membrane cell



- *Mycoplasma* species have been isolated from women with bacterial vaginosis. *M. genitalium* infection is associated with increased risk of cervicitis, pelvic inflammatory disease, preterm birth and spontaneous abortion, and infertility. Mycoplasmae are associated with fetal respiratory distress syndrome, bronchopulmonary dysplasia, and intraventricular hemorrhage in preterm infants.

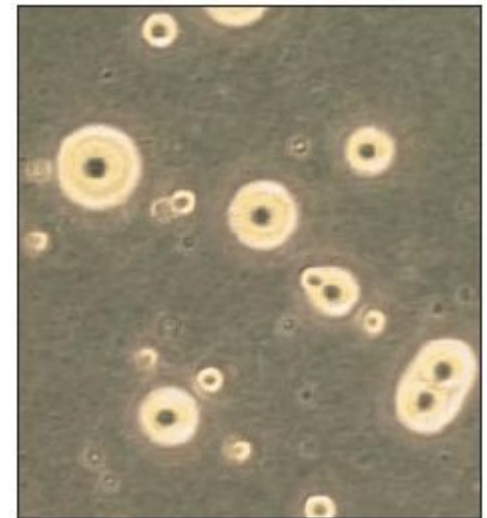
Lab diagnostic

1. Bacteriology

Mycoplasmas are demanding microorganisms. Cultivate mycoplasma on special elective (selective) broth medium.

Mycoplasma media contains various extracts and peptones, sodium chloride, low concentration agar. Sodium chloride maintains the osmotic balance in the medium. Agar of a lower concentration ensures the formation of the largest (of possible) colonies. Mycoplasmas grow in the thickness of the agar, forming colonies of spherical shape, which are examined with small magnifications of the microscope on petri dishes or in diffuse light in test tubes with semi-liquid agar bars.

In addition, for the cultivation of mycoplasmas, selective media are supplemented with fortifying additives such as yeast extract and horse serum. The yeast extract is a source of nucleic acid precursors, and horse serum is the source of cholesterol, which stimulates the growth of mycoplasmas.



2. Molecular diagnostic

- For express control of mycoplasmas in medical control laboratories, PCR with universal primers is used for the genes of 23S and 16S rRNA of mycoplasmas, which have a high degree of homology among the different mycoplasma species. For a more thorough study and complete characterization of the sample, a culture method is used in combination with the method of cytoimmunofluorescence microscopy or / and the method of indicator (control) culture.

Family: Chlamydiaceae

Genus: *Chlamydia*

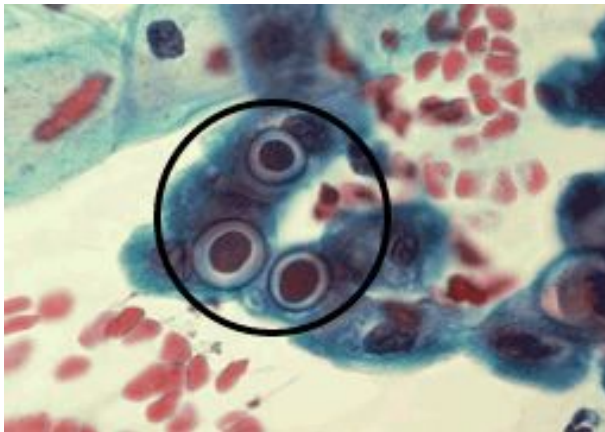
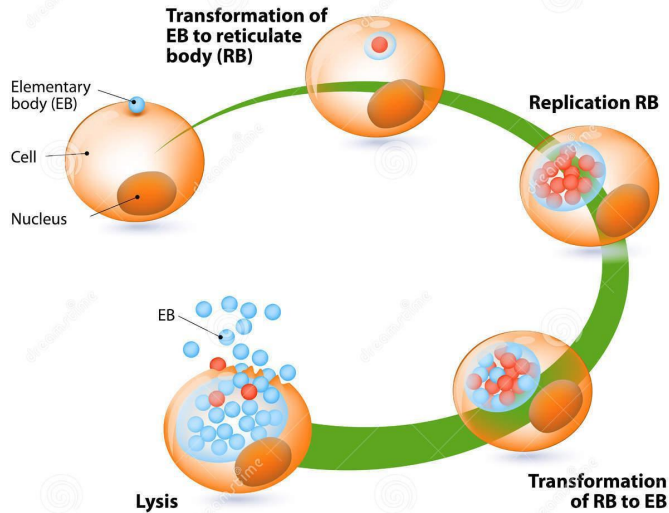
The three *Chlamydia* species include *Chlamydia trachomatis* (a human pathogen), *Chlamydia suis* (affects only swine), and *Chlamydia muridarum* (affects only mice and hamsters).

Chlamydia infection

Chlamydia infection is a sexually transmitted infection caused by the bacterium *Chlamydia trachomatis*. Most people who are infected have no symptoms. When symptoms do develop this can take a few weeks following infection to occur. The infection can spread to the upper genital tract in women causing pelvic inflammatory disease which may result in future infertility or ectopic pregnancy. Repeated infections of the eyes that go without treatment can result in trachoma, a common cause of blindness in the developing world.

Chlamidia is intracellular peresite

LIFE CYCLE OF THE CHLAMYDIA



Chlamydiae have the ability to establish long-term associations with host cells. When an infected host cell is starved for various nutrients such as amino acids (for example, tryptophan), iron, or vitamins, this has a negative consequence for Chlamydiae since the organism is dependent on the host cell for these nutrients. Long-term cohort studies indicate that approximately 50% of those infected clear within a year, 80% within two years, and 90% within three years.

Lab diagnostic

1. Serological test (ELISA) (Ig A, Ig G)
2. Molecular diagnostic (PCR)

Treatment

C. trachomatis infection can be effectively cured with antibiotics. Guidelines recommend **azithromycin, doxycycline, erythromycin, levofloxacin or ofloxacin**. Agents recommended during pregnancy include erythromycin or amoxicillin. An option for treating sexual partners of those with chlamydia or gonorrhea include patient-delivered partner therapy (PDT or PDPT), which is the practice of treating the sex partners of index cases by providing prescriptions or medications to the patient to take to his/her partner without the health care provider first examining the partner. Following treatment people should be tested again after three months to check for reinfection.