



## *Chlamydiae*

*Chlamydiae* is a genus of pathogenic bacteria that are obligate intracellular parasites. It is non-motile, gram negative bacteria.

The *chlamydiae* exists in nature in two forms:

- (1) a nonreplicating, infectious particle called the elementary body (EB)
- (2) an intracytoplasmic, reproductive form called the reticulate body (RB)

Chlamydial cells are unable to carry out energy metabolism and lack many biosynthetic pathways; therefore, they are entirely dependent on the host cell to supply them with ATP and other intermediates.

Because of their dependence on host biosynthetic machinery, the chlamydiae were originally thought to be viruses; however, they have a cell wall and contain DNA, RNA, and ribosomes and therefore are now classified as bacteria

### ***Chlamydia infections are:***

**Ocular Infections:** *Chlamydia trachomatis* causes trachoma and inclusion conjunctivitis.

**Genital Infections:** Some *C trachomatis* strains cause genital infections, including nongonococcal urethritis in men and acute salpingitis and cervicitis in women.

**Respiratory Infections:** *Chlamydia psittaci* usually causes an influenza like illness called psittacosis. *Chlamydia pneumoniae* causes atypical pneumonitis in humans.



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## Diagnosis

- 1- *Chlamydia trachomatis* can be identified microscopically in scrapings from the eyes or the urogenital tract. Inclusion bodies in scraped tissue cells are identified by iodine staining of glycogen present in the cytoplasmic vacuoles in infected cells.
- 2- *Chlamydia* cell culture is a test in which the suspected *Chlamydia* sample is grown in a vial of cells. The pathogen infects the cells, and after a set incubation time (48 hours), the vials are stained and viewed on a fluorescent light microscope.
- 3- Sera and tears from infected humans are used to detect anti-*Chlamydia* antibodies by the complement fixation or micro immunofluorescence tests.
- 4- Nucleic acid amplification tests: A polymerase chain reaction (**PCR**) test is an example of a nucleic acid amplification test.
- 5- Enzyme-linked immunosorbent assay (**ELISA**)