



Department of microbiology and virology

General microbiology
Taxonomy of microorganisms
Morphology of microorganisms
Structure of bacteriological laboratory

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2020



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HISTORY PERIODS OF MICROBIOLOGY



Period of empirical studies (heuristic)

Hippocrates (III-IV century BC.) - Miasmatic theory;

Girolamo Fracastoro (1476-1553) - the theory of contagious;



Morphological period:

Hans and Zacharias Janssen (1590) - the first microscope, a multiply in 32 times;

Galileo (1609) - a simple microscope;

Drebel (1617) - two-lens microscope

Leeuwenhoek [1632-1723] - the creation of the lens with a magnification of 160-300 times. Finding - "live animals" in the water, feces, semen, and other

Dil Ivanovsky (1892) - discover of viruses



Physiological period:

Louis Pasteur (1822-1895) - He discovered the nature of fermentation and anaerobiosis; sterilization principle.

Robert Koch (1843-1910) - method of staining of bacteria, photomicrography, a method of producing pure cultures.



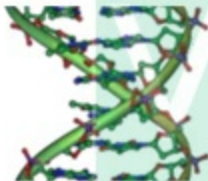
Immunological period:

E. Jenner (1749-1823) - the vaccination of people by cowpox (vaccine)

Louis Pasteur - developed the principle of vaccination.

I Mechnikov (1843-1916) - phagocytic theory, the founder of the theory of cellular immunity;

P. Ehrlich (1854-1915) - the hypothesis that antibodies developed the humoral theory of immunity.



Molecular Genetics period: decoding genes of bacteria and viruses, the creation of recombinant strains that are widely used in biotechnology (preparation of vaccines, pharmaceuticals, dietary proteins, sugars, etc).

SYSTEMATICS

Cavalier-Smith

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kingdoms

Animalia

Plantae

Fungi

Protista

Archaea/Archaeobacteria

Bacteria/Eubacteria

Chromista

Domains

Bacteria

Eucarya

Archae

Cyanobacteria

Spirochaetes

Actinobacteria

Fungi

Plantae

Animalia

Methanogenes

Halophiles

thermoacidophiles

Saccharomycotina

Basidiomycota

Bryophyta

Magnoliophyta

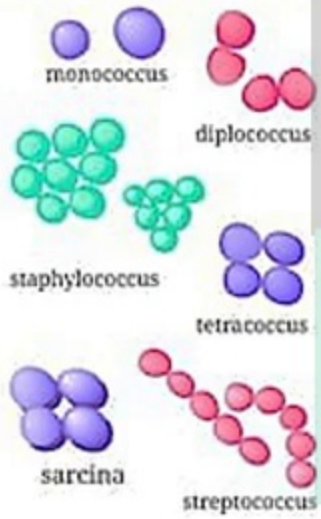
Chordae

Carl Woese *et al.* in 1990

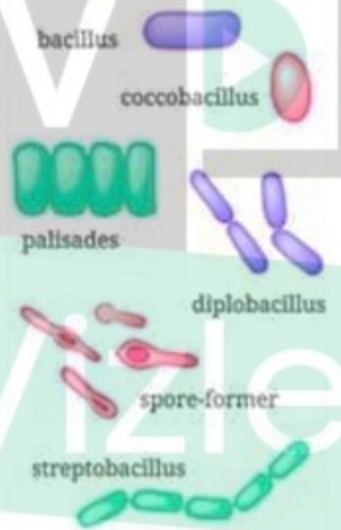


Classification of bacteria according their morphology

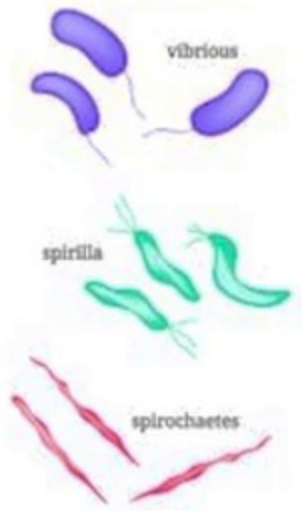
Spherical, or coccus bacteria



Rods, or bacillus

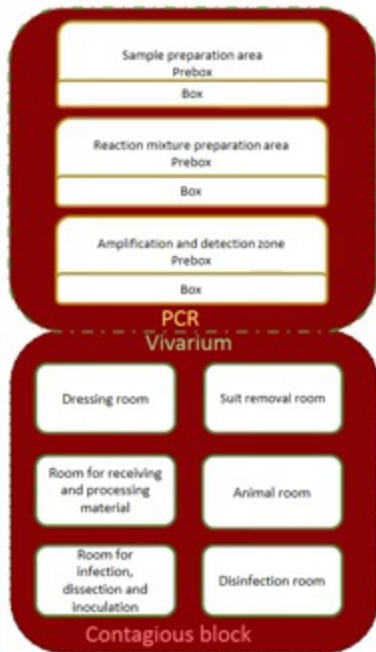


Curved shapes of bacteria





Structure of bacteriological laboratory (I and II group of pathogenicity)





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