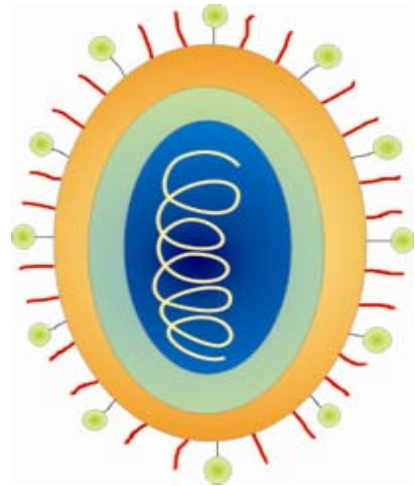


Infectious Diseases caused by Virus

Viruses cause many diseases in humans, animals and plants. Among the more common viral diseases which you may have suffered from are the common cold (Rhinovirus), chickenpox (Herpes Zoster Virus) and cold sores (Herpes Simplex Virus).

Viruses consist of a small collection of genetic material (DNA or RNA) encased in a protective protein coat called capsid. In some viruses, the capsid is covered by a viral envelope made of proteins, lipids and carbohydrates. The envelopes may be studded by spikes made of carbohydrates and proteins that help the virus particles attach to host cells.

When viruses come into contact with host cells, they trigger the cells to engulf them, or fuse themselves to the cell membrane so they can release their DNA into the cell. Once inside a host cell, viruses take over its machinery to reproduce.



The Categories of viruses are made by their structure:

RNA virus - where the virus genetic information is RNA

DNA virus - where the virus genetic information is DNA

Retrovirus - a subcategory of RNA virus that uses the host cell to produce DNA from its RNA template

Examples of Virus:

Epstein-Barr virus
 Hepatitis A virus
 Hepatitis B virus
 Hepatitis D virus
 Hepatitis G virus
 Hepatitis C virus
 Herpes simplex virus: Typ1/2
 HIV (Human Immunodeficiency Virus)
 Mumps virus
 Rubella virus
 Rubeola
 Varicella-zoster virus

Infection/Disease:

Infectious mononucleosis
 Hepatitis A
 Hepatitis B
 Hepatitis D
 Hepatitis G
 Hepatitis C
 Herpes labialis/genitalis
 AIDS
 Mumps
 German measles
 Measles
 Chickenpox

The **enzyme-linked immunosorbent assay (ELISA)** is the most commonly used **serologic test** for detecting antibody against viruses. It is even possible to distinguish between acute infection, prior infection, or passively acquired antibodies, e.g maternal ones in infants.

Ideal instruments for ELISA formats are the BERTHOLD TECHNOLOGIES absorbance readers Apollo-1 (1 channel) and Apollo-8 (8 channel) or the multimode reader Mithras LB 940.

By exchanging colorimetric substrates of horseradish peroxidase or phosphatases with luminescent ones a 100-fold increase in sensitivity may be achieved.

Especially for **luminescence immunoassays (LIA)** BERTHOLD designed the CentroLIA LB 961, the stand alone microplate luminometer with integrated software. The use of softkeys with an interactive text display of their associated function makes the CentroLIA an extremely user-friendly, easy-to-use, instrument. Additionally BERTHOLD offers a variety of luminometers in different probe formats and according to your throughput demands: Centro LB 960 microplate luminometer and Mithras LB 940 multimode reader with MikroWin software and curve fitting option. The tube luminometers Lumat LB 9507 single tube luminometer, Junior LB 9509 portable tube luminometers, AutoLumat LB 953 and Flash'n Glow automated tube luminometers are/can be equipped with sophisticated and easy-to-use immunoassay software.

Selection of virus detection kits:

Luminescence technology:

Kits:

- Rubella CIA (Monobind, Equipar)
- Torch Panel CIA (Monobind)
(Toxoplasma, Rubella, CMV, Herpes simplex)
- HBsAG CLIA (Audit Diagnostics)
- HBsAB CLIA (Audit Diagnostics)
- HBeAG CLIA (Audit Diagnostics)
- HBcAB CLIA (Audit Diagnostics)
- Anti-HIV CLIA (Chemclin Biotech)
- CMV CLIA (Equipar)
- HSV 1-2 IgG CLIA (Equipar)
- HSV 1-3 IgM CLIA (Equipar)

BERTHOLD instruments:

CentroLIA Microplate Luminometer LB 961
Centro Microplate Luminometer LB 960
Mithras Multimode Reader LB 940



Absorbance technology:

Kits:

- Epstein Barr VCA IgM-ELISA (ClinProInternational)
- HAV IgM-ELISA (ClinPro International)
- Anti-Hbc EIA (Anilabsystems)
- Anti-Hbs EIA (Anilabsystems)
- HCV ELISA (ClinPro International)
- HDV Ab-ELISA (ClinPro International)
- HDV Ag-ELISA (ClinPro International)
- HGV Ab-ELISA (ClinPro International)
- HSV-1 IgG (Omega Diagnostics)
- HSV-2 IgG EIA (Omega Diagnostics)
- HIV EIA (Anilabsystems)
- Measles IgG-ELISA (ClinPro International)
- Varicella Zoster IgG-ELISA (ClinPro International)
- Mumps IgG-ELISA (ClinPro International)

BERTHOLD instruments:

Apollo Absorbance Readers LB 911/LB 912
Mithras Multimode Reader LB 940



With this abstract BERTHOLD TECHNOLOGIES likes to give a short introduction and some information about available kits. BERTHOLD TECHNOLOGIES will not be in no way responsible for the validity of information given on these pages.