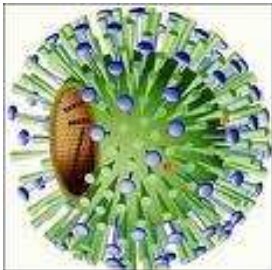


Influenza Virus



Influenza viruses are the causative agents of the influenza or flu.

These are RNA-viruses of the viral family the orthomyxoviridae. The genome of the influenza viruses is segmented and comprises eight separate antisense RNA strands, each of which codes for one specific protein. Together with the nucleoprotein, they form the helical nucleocapsid. The nucleocapsid itself is embedded in a protein. The virus is enclosed by an envelope made of cell membrane lipids with viral protein inclusions (hemagglutinin and neuraminidase, responsible for infectivity and viral progeny release) (see fig.).

Influenza viruses are genetically variable. Slight antigenic changes are the general rule (antigenic drift) and are explained by selection of point mutants in the hemagglutinin under immunological pressure. More profound changes (antigenic shifts) explain the periodic occurrence of influenza epidemics and pandemics.

The aerogenically transmitted influenza viruses normally replicate in the mucosa of the nasopharynx, resulting in a pharyngitis or at most a tracheobronchitis, after an incubation period of 24-72 hours. Pulmonary dissemination of the infection can result from an upper respiratory infection or manifest without one, whereby the prognosis in the latter case is less favourable. Pneumonia caused solely by the influenza-virus is rare. As a rule, superinfections with staphylococci, streptococci, pneumococci or Haemophilus bacteria are responsible. These infections, which used to be the normal cause of an influenza death, can be controlled with antibiotics.

Influenza-A is by far the most important and most frequently observed influenza virus. It repeatedly causes epidemic and even pandemics at greater intervals. After an incubation period of 1-5 days, in which the viruses replicate in the mucosa of the nasopharynx, a feverish rhinitis and pharyngitis develop. Headache and muscle pain (myositis) appear may be accompanied by a feeling of sickness and loss of appetite. After 6 days the fever may be over, but rhinitis, coughing and weakness stay for at least 1-2 weeks.

Influenza-B tends to persist in endemic form and causes few outbreaks.

Influenza-C is rarely isolated. It plays a minor role as an infective pathogen.

Species	Disease	Symptoms	Mechanism of infection
Influenza-Virus Type A Type B (Type C)	Influenza (flu)	Fever, coughing, rhinitis, pharyngitis, headache and muscle pain <u>Complications:</u> pneumonia, superinfection (in particular Cocci and Haemophilus bacteria), other inner organs - even the ZNS - are included	Infection by direct contact or droplets

Infections may be diagnosed by:

- Microscopy: Determination of the cytopathogen effect in cell cultures, IF
- Serology: Determination of specific antibodies based on the ELISA-technique

NovaLisa™ Influenza A/Influenza B IgA/IgG/IgM ELISA:

The NovaLisa™ Influenza A/Influenza B IgA/IgG/IgM ELISA is intended for the qualitative determination of IgA-/IgG-/IgM-class antibodies against influenza virus A resp. influenza virus B in human serum or plasma (citrate).

Antigens:

Influenza A IgA/IgG/IgM: Purified Influenza A grade 2 antigens (strain Texas 1/77 (H3N2))
Influenza B IgA/IgG/IgM: Purified Influenza B grade 2 antigens (strain Hong Kong 5/72)

Specific performance characteristic:

Influenza A:

	Intraassay			Interassay			Sensitivity %	Specificity %
	n	Mean	CV %	n	Mean	CV %		
IgA	8	2,62	2,1	19	2,65	3,7	>90	>90
IgG	20	0,81	4,5	12	21	3,2	>95	91,7
	24	1,38	3,3	12	38	2,1		
IgM	8	1,18	3,8	17	1,18	4,7	>95	>95

Influenza B:

	Intraassay			Interassay			Sensitivity %	Specificity %
	n	Mean	CV %	n	Mean	CV %		
IgA	7	0,87	2,8	14	0,87	4,7	>90	>90
IgG	8	2,57	3,4	20	2,61	3,2	95,8	86,7
IgM	8	0,82	5,9	12	0,75	7,5	>95	>95

Order information:

ELISA	Number of determinations	Product number
Influenza A IgA	96	INFA0290
Influenza B IgA	96	INFA0300
Influenza A IgG	96	INFG0290
Influenza B IgG	96	INFG0300
Influenza A IgM	96	INFM0290
Influenza B IgM	96	INFM0300