

Rubella Virus



Rubella virus is the causative agent in German measles. This normally harmless childhood disease can cause severe embryopathies during the first trimester of pregnancy.

The rubella virus is an enveloped single-stranded RNA virus, which belongs to the family of Togaviruses. It occurs worldwide. The only reservoir for pathogens is the human being. The virus is transmitted by direct contact. The rate of infection throughout children at the age of 10 is 50%. In countries of temperate climate zones small epidemics as well as sole infections may occur.

The rubella virus at first replicates in lymphoid organs at the portal of entry and in the nasopharyngeal space, then a viremia develops. Approximately 8 days after primary infection the virus appears in blood. Finally it reaches the skin, where a typical exanthema manifests accompanied by mild fever. Complications like encephalitis and persisting arthropathies rarely develop. The viruses are deposited by nasopharyngeal secretion and urine.

In pregnant women, the virus takes its route through the placenta to the embryo, where it can cause congenital deformities or embryonic death, especially in the first three months of pregnancy. The organs in developmental stage in this trimester are most seriously affected by the rubella infection. The most frequent congenital deformities are deafness, cataracts, cardiac defects, microcephaly, and spina bifida. In intrauterine embryo deaths due to rubella infections the immediate cause of death is usually myocardial damage.

Species	Disease	Symptoms	Mechanism of infection
Rubella-virus	German measles Rubella syndrome (rubella-caused embryopathies)	Exanthema (fever, feeling of sickness) cardiovascular lesions, eye damage, hearing defect, CNS befall etc.	Transmission by direct contact most likely by droplets. Fetal infection: While maternal viremia through the placenta to the embryo

Infections may be diagnosed by:

RT-PCR

Serology: Determination of specific antibodies based on the ELISA-technique

NovaLisa™ Rubella Virus IgG/IgM μ-capture ELISA:

The NovaLisa™ Rubella Virus IgG ELISA is intended for the quantitative determination of IgG- class antibodies against rubella viruses in human serum or plasma (citrate).

The NovaLisa™ Rubella Virus IgM μ-capture ELISA is intended for the qualitative determinations of IgM- class antibodies against rubella viruses in human serum.

Antigens:

IgG: Rubella K2S **grade** antigens
 IgM: Purified rubella antigens

Specific performance characteristics:

	Intraassay			Interassay			Sensitivity %	Specificity %
	n	Mean	CV %	n	Mean	CV %		
IgG	6	0,54	7,9	8	0,50	7,6	> 98	> 98
	6	1,73	3,4	6	1,64	4,6		
	6	2,34	2,5	6	2,19	6,3		
IgM	23	1,3	2,7	3	28,4	10,3	> 95	> 95

Order information:

ELISA	Number of determinations	Product number
Rubella Virus IgG	96	RUBG0400
Rubella Virus IgM μ -capture	96	RUBM0400

RILIBÄK:

With Liquicheck Torch plus from Biorad an external control is available for NovaLisa™ Rubella Virus IgG.