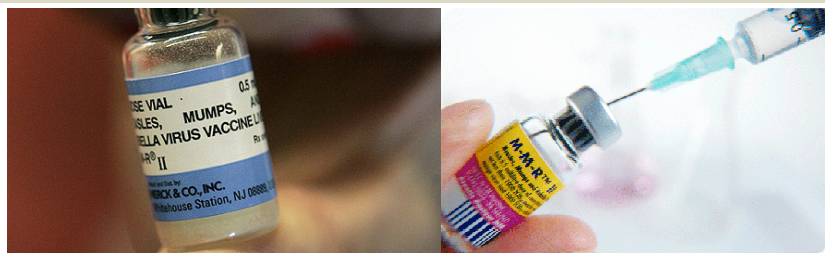


Mumps and epidemic parotitis is a viral disease of the human species, caused by the mumps virus. Painful swelling of the salivary glands (classically the parotid gland) is the most typical presentation. Painful testicular swelling (orchitis) and rash may also occur. The symptoms are generally not severe in children. The disease is generally self-limited, running its course before receding, with no specific treatment apart from controlling the symptoms with pain medication. Mumps is a contagious disease that is spread from person to person through contact with respiratory secretions such as saliva from an infected person. Mumps can also be spread by sharing food. A person infected with mumps is contagious from approximately 6 days before the onset of symptoms until about 9 days after symptoms start.



A physical examination confirms the presence of the swollen glands. Usually the disease is diagnosed on clinical grounds and no confirmatory laboratory testing is needed. If there is uncertainty about the diagnosis, a test of saliva or blood may be carried out; a newer diagnostic confirmation, using real-time nested polymerase chain reaction (PCR) technology, has also been developed. An estimated 20%-30% of cases are asymptomatic. As with any inflammation of the salivary glands, serum amylase is often elevated.

Before the development of vaccination and the introduction of a vaccine, it was a common childhood disease worldwide. It is still a significant threat to health in the third world, and outbreaks still occur sporadically in developed countries. The most common preventative measure against mumps is immunization with a mumps vaccine. The vaccine may be given separately or as part of the MMR immunization vaccine which also protects against measles and rubella. The efficacy of the vaccine depends on the strain of the vaccine, but is usually around 80%. The Jeryl Lynn strain is most commonly used in developed countries but has been shown to have reduced efficacy in epidemic situations. The Leningrad-Zagreb strain commonly used in developing countries appears to have superior efficacy in epidemic situations.

In developed countries, most children are immunized against measles by the age of 18 months, generally as part of a three-part MMR vaccine (measles, mumps, and rubella). In developing countries where measles is highly endemic, the WHO recommend that two doses of vaccine be given at six months and at nine months of age. Vaccine efficacy can be measured by the number of reported cases in the USA. For measles, 894,134 cases reported in 1941 compared to 288 cases reported in 1995 resulted in a 99.97% decrease in reported cases; for mumps, 152,209 cases reported in 1968 compared to 840 cases reported in 1995 resulted in a 99.45% decrease in reported cases; and for rubella, 57,686 cases reported in 1969 compared to 200 cases reported in 1995 resulted in a 99.65% decrease. MMR II vaccine (Merck) is a live virus vaccine for vaccination against measles (rubeola), mumps, and rubella (German measles). Attenuated Measle virus, derived from Enders' attenuated Edmonston strain and propagated in chick embryo cell culture, is used in MMR II vaccine.

MMR II is supplied freeze-dried (lyophilized) and contains live viruses. The vaccine is a mixture of three live attenuated viruses, administered via injection. The shot is generally administered to children around the age of one year, with a second dose before starting school (i.e. age 4/5). The vaccine is sold by Merck as M-M-R II, GlaxoSmithKline Biologicals as Priorix, Serum Institute of India as Tresivac, and Sanofi Pasteur as Trimovax. The component viral strains of MMR vaccine were developed by propagation in animal and human cells. The live viruses require animal or human cells as a host for production of more virus. For example, in the case of mumps and measles viruses, the virus strains were grown in embryonated hens' eggs and chick embryo cell cultures. This produced strains of virus which were adapted for the hens egg and less well-suited for human cells. These strains are therefore called attenuated strains. They are sometimes referred to as neuroattenuated because these strains are less virulent to human neurons than the wild strains. The Rubella component, Meruvax, is propagated using a human cell line (WI-38, named for the Wistar Institute) derived in 1961 from embryonic lung tissue. The MMRV vaccine, a combined measles, mumps, rubella and varicella vaccine, has been proposed as a replacement for the MMR vaccine to simplify administration of the vaccines.

ADI has developed antibody ELISA kits to determine the efficacy of various existing Mumps vaccines or test new vaccines. ADI is further expanding the antibody ELISAs to measure IgG (and IgG1, IgG2a, IgG3, IgG4) and IgM classes.

Mumps vaccine Related ELISA kits

ELISA Kit Description	Species	IgG Specific	IgM Specific	IgA Specific
Mumps Vaccine antibody ELISA kits	Human	520-100-HMG	520-110-HMM	520-120-HMA
	Mouse	520-130-MMG	520-140-MMG	520-150-MMG

Mumps Related Antibodies, Peptides, and Recombinant Proteins Ordering Information

Catalog#	Catalog#	Product Description	Product Type
Measles Virus	MUMS11-S	Rabbit Anti-Mumps virus (Enders) Virus antiserum	Antibodies
	MUMS12-M	Monoclonal Anti-Mumps virus (Enders) Virus IgG	Antibodies
	MUMS15-N-500	Mumps virus (Enders) proteins/antigens extract	Antigen

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