

## Mumps

# Enzyme immunoassays for the diagnostics of Mumps

**ELISA** kits are optimized and validated for detection of IgA, IgG and IgM antibodies in human serum or plasma



Diagnostic kits are intended for professional use in the laboratory.



## Introduction

Mumps (parotitis epidemica) is an acute viral disease caused by an RNA virus from the *Paramyxoviridae* group.

Droplet-transmission is characteristic for the infections; saliva contaminated objects are less likely contributors to the spread of the disease. The disease occurs seasonally with the highest incidence in winter and spring, affecting mainly children aged 5–9 years and adolescents aged 15–19.

The incubation period of the disease is 2–3 weeks. The disease may occur asymptotically, with relatively mild non-specific symptoms (loss of appetite, elevated body temperature, headache), especially in children. A typical symptom of mumps is one-sided or bilateral painful swelling of parotid salivary glands, possibly also sublingual or submandibular salivary glands. Complications of the disease are more common in adults, the most severe being aseptic meningitis, orchitis, oophoritis and otitis.

The main means of mumps prevention is general vaccination of children using MMR vaccine, whereas the parotitic component of the vaccine induces the production of antibodies in about 90% of the vaccinated individuals.

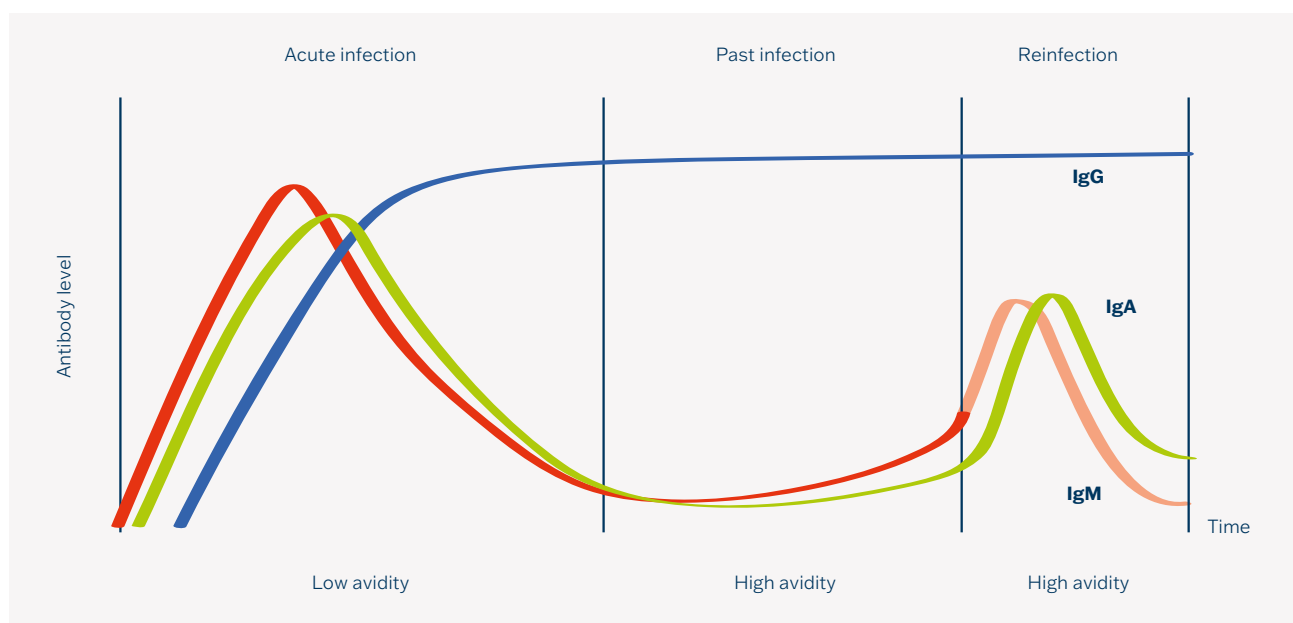
## Diagnosis of Infection

The diagnosis of mumps is based on clinical picture and laboratory tests. Laboratory diagnostics is performed by direct detection of infectious agents or by the determination of specific antibodies using ELISA.

Upon infection, specific antibodies are produced within 3–10 days after the onset of clinical signs. While IgM and IgA antibodies disappear after a few weeks or months, IgG antibodies persist for a long time, usually for life.

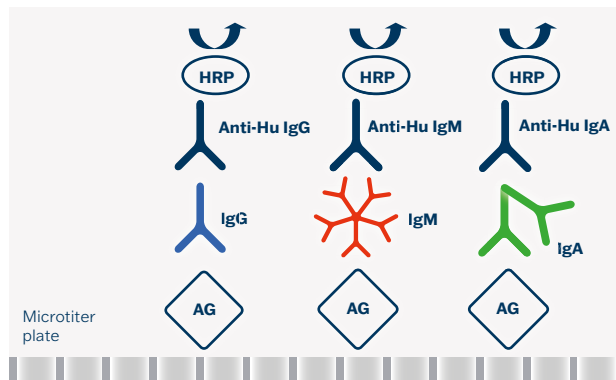
Significant increases in IgG antibody levels occur after vaccination, although titres of these antibodies are generally lower than after natural infection and may not persist for life. The determination of IgG antibody levels also serves as a control of vaccination effect.

## Antibody Response














## Test Principle

The assays are based on a sandwich type of ELISA method.



## Protocol Summary

Step	Test steps
	1. Dilution of samples – serum/plasma 1:101 (10 µl + 1 ml)
	2. Pipette Controls and diluted samples 100 µl – Including blank
	3. Incubate 30 min. at 37 °C
	4. Aspirate and wash the wells 5 times
	5. Add Conjugate 100 µl – Including blank
	6. Incubate 30 min. at 37 °C
	7. Aspirate and wash the wells 5 times
	8. Add 100 µl Substrate (TMB-Complete) – Including blank
	9. Incubate 30 min. at 37 °C
	10. Add 100 µl Stopping solution – Including blank
	11. Read colour intensity at 450 nm

## Antigens

Purified and inactivated native antigen with high content of specific immunodominant epitopes.

## Clinical Application

- Screening test for the detection of specific IgA, IgG and IgM antibodies in human serum or plasma
- Disease stage diagnosis

## User Comfort

- Ready-to-use components
- Colour-coded components
- Interchangeable components
- Breakable colour-coded microplate strips
- CUT-OFF and calibrators included
- Semiquantitative evaluation of results (Index of Positivity) or quantitative evaluation of results (IU/ml)

## Advantages

- High diagnostic specificity and sensitivity
- High reproducibility
- High dynamics of antibody response
- Identical assay procedure
- Short total assay time
- Sample diluent with RF-sorbent (EIA Mumps IgM)
- Ready for automation
- Customer support

## Test Characteristics

ELISA	<u>Diagnostic Sensitivity</u>	<u>Diagnostic Specificity</u>
EIA Mumps IgA	84.0%	99.9%
EIA Mumps IgG	98.7%	95.7%
EIA Mumps IgM	87.5%	99.0%



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## Ordering Information

### ELISA

<u>Cat. No</u>	<u>Product</u>	<u>No. of Tests</u>
MuA096	EIA Mumps IgA	96
MuG096	EIA Mumps IgG	96
MuM096	EIA Mumps IgM	96
SK-MuA096	SmartEIA Mumps IgA	96
SK-MuG096	SmartEIA Mumps IgG	96
SK-MuM096	SmartEIA Mumps IgM	96

SmartEIA kits are designed for automated processing using the Agility® analyser.

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