Anti-HSV-2 (gG2) ELISA (IgG)

- **Type-specific quantitative determination of IgG antibodies against HSV-2**
- **Based on purified glycoprotein G2 (gG2)**
- **Fully automated processing and evaluation**

Technical data

Antigen	Purified glycoprotein G2 (gG2) of herpes simplex virus 2
Calibration	Quantitative, in relative units per millilitre (RU/ml) Calibration serum 1: 200 RU/ml Calibration serum 2: 20 RU/ml Calibration serum 3: 2 RU/ml Recommended upper threshold of the reference range for non-infected individuals (cut-off): 20 RU/ml
Sample dilution	Serum or plasma, 1:101 in sample buffer
Reagents	Ready for use, with the exception of the wash buffer (10x); colour-coded solutions, in most cases exchangeable with those in other EUROIMMUN ELISA kits
Test procedure	30 min / 30 min / 15 min, room temperature; fully automatable
Measurement	450 nm, reference wavelength between 620 nm and 650 nm
Test kit format	96 break-off wells; kit includes all necessary reagents
Order number	**EI 2532-9601-2 G**

Clinical significance

Herpes simplex viruses type 1 (HSV-1) and type 2 (HSV-2) cause local skin and mucous membrane infections predominantly in the mouth and nose area and the genital regions. Initially, blisters occur on a reddened area, which burst and develop into painful ulcerous lesions. Primary infection with HSV-2 generally occurs in or after adolescence, the virus being transmitted via sexual intercourse. Antibodies against HSV-2 can be found in 7 % to 20 % of general population and in more than 20 % of adults with frequently changing sexual partners. Primary infection and reinfection with HSV may lead to severe illness in pregnant women. The virus is transmitted transplacentally or perinatally to the child and can cause infection in the foetus or newborn. Infection of the unborn child can lead to intrauterine death, malformations and premature birth. Newborns are prone to developing systemic HSV-2 infections, with a fatality rate of around 60% in untreated disseminated HSV-2 infections. Surviving infants frequently show neurological, motor or cognitive deficits. In rare cases HSV-2 can cause severe cerebral infections, which are fatal in 70 % of cases if left untreated.

Diagnostic application

The use of HSV-2 glycoprotein G2 (gG2) as the antigen in the EUROIMMUN Anti-HSV-2 (gG2) ELISA (IgG), allows type-specific detection of IgG antibodies against HSV-2. A positive test result indicates contact with the virus. When acute processes are suspected, e.g. genital herpes, especially during pregnancy, or HSV encephalitis, direct detection should be performed.

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Reference range

The levels of anti-HSV-2 antibodies (IgG) were analysed with the EUROIMMUN Anti-HSV-2 (gG2) ELISA (IgG) in a panel of 500 healthy blood donors. With a cut-off value of 20 IU/ml, 9.6 % of the blood donors were anti-HSV-2 positive (IgG). This reflects the known prevalence in adults.

Reproducibility

The reproducibility was investigated by determining the intra- and inter-assay coefficients of variation using three sera. The intra-assay CVs are based on 20 determinations and the inter-assay CVs on four determinations performed in six different test runs.

	Intra-assay variation, n = 20		Inter-assay variation, n = 4 x 6	
Serum	Mean value (RU/ml)	CV (%)	Mean value (RU/ml)	CV (%)
1	23	5.1	25	7.3
2	47	4.8	49	4.2
3	76	3.9	77	3.2

Quality assessment results

168 serologically and/or clinically characterised patient samples (quality assessment schemes by INSTAND, Germany; Labquality, Finland and IQS, Germany) were analysed using the EUROIMMUN Anti-HSV-2 (gG2) ELISA (IgG). The agreement of the qualitative ELISA results with the specifications of the quality assessment institutes was 100 % (excluding borderline sera).

n = 168		Quality assessment targets		
		positive	borderline	negative
EUROIMMUN Anti-HSV-2 (gG2) ELISA (IgG)	positive	70	0	0
	borderline	0	1	1
	negative	0	3	93

Cross reactivity

48 sera from patients with other herpes virus infections and 144 sera from patients with different infectious diseases (positive IgG results) were investigated using the EUROIMMUN Anti-HSV-2 (gG2) ELISA (IgG). No cross reactions (CR) were found.

Antibodies against	n	CR	Antibodies against	n	CR
Adenovirus	12	0 %	**Measles virus**	12	0 %
Chlamydia pneumoniae	12	0 %	**Mumps virus**	12	0 %
CMV	12	0 %	**Mycoplasma pneumoniae**	12	0 %
EBV-CA	12	0 %	**Parainfluenza virus pool**	12	0 %
Helicobacter pylori	12	0 %	**RSV**	12	0 %
HSV-1	12	0 %	**Rubella virus**	12	0 %
Influenza virus A	12	0 %	**Toxoplasma gondii**	12	0 %
Influenza virus B	12	0 %	**VZV**	12	0 %

Literature

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