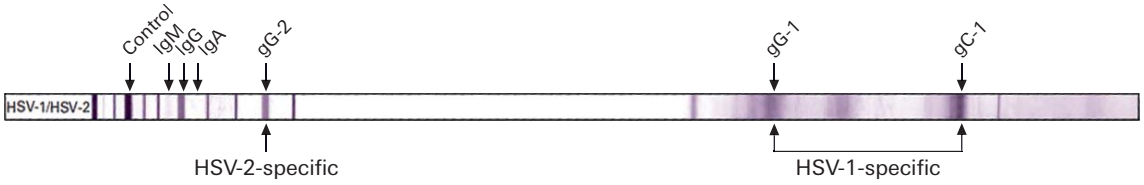
Anti-HSV-1/HSV-2 gG-2 EUROLINE-WB (IgG/IgM)



- **Based on native HSV-1 whole antigen extract, supplemented by a membrane chip with the HSV-2 type-specific glycoprotein G-2**
- **Reliable differentiation of HSV-1 and HSV-2 infections**
- **Fully automated incubation and evaluation of immunoblot strips using EUROBlotOne/EUROLineScan**

Technical data

Antigen	Electrophoretically separated HSV-1 antigen and HSV-2 glycoprotein G-2
Sample dilution	Serum or plasma, 1:51 in universal buffer
Test procedure	30 min / 30 min / 10 min; room temperature
Test kit format	16 or 24 membrane strips; kit includes all necessary reagents
Automation	Compatible with all commercial blot processing systems, e.g. EUROBlotOne or EUROBlotMaster from EUROIMMUN
Order no.	**DY 2531-1601-1 G (IgG, 16 strips)** **DY 2531-1601-1 M (IgM, 16 strips)**

Clinical significance

An infection with herpes simplex virus (HSV) is characterised by formation of blister on skin and mucous membranes as non-intermittent, lytic replication in epithelial cells. The disease is spread worldwide and usually has an asymptomatic course. Complications result when internal organs are also affected and start to necrotise. Infections of herpes simplex virus type 1 (HSV-1) occur in the areas of mouth and nose or in the genital area, whereas herpes simplex virus type 2 (HSV-2) mostly affect the genital area. In approx. 10% of cases, HSV-2 infections lead to non-anogenital manifestations. In primary HSV-2 infections, cephalalgia and neck stiffness are frequent symptoms, whereas meningitis is rare. Antibodies against HSV can be detected in the serum of nearly all patients after the disease has taken its course. For HSV-1 the known infection level in adults is 90%. Antibodies against HSV-2 can be found in only 7%-20% of general population and in more than 20% of sexually active adults. Mixed infection with both HSV types is revealed in about 11%. However, the presence of antibodies does not prevent relapses or reinfection. herpes simplex virus, mainly of type 2, may be transmitted from mother to foetus or newborn during pregnancy or delivery, respectively. Rare foetal infections lead to malformations (microcephaly, hydrocephalus, microphthalmia, intrauterine death or early delivery). Frequently, the herpes-simplex virus is passed on to the newborn during or shortly after delivery (neonatal herpes simplex). The consequences may be severe generalised infections which are associated with a high mortality despite antiviral treatment. The risk of an infection in the child is especially high with genital primary infection of the mother shortly before the delivery.

Diagnostic application

For the type-specific serological investigation of infections with herpes simplex virus, test system based on type-specific antigens are required: glycoprotein C-1 (gC-1) or glycoprotein G-1 (gG-1) for HSV-1 and glycoprotein G-2 (gG-2) for HSV-2. Both gC-1 and gG-1 can be considered as equivalent target antigens in the diagnosis of HSV-1 infections (Scheper et al., J Virol Meth 166:42-47 (2010)). Westernblot is considered the gold standard for differentiation between HSV-1 and HSV-2 infections. The EUROIMMUN EUROLINE-WB contains a HSV-1 whole antigen extract, supplemented by a membrane chip printed with lines of HSV-2 type-specific gG-2. In this way, antibodies against HSV-1 and HSV-2 can be identified simultaneously with a single test. If, however, acute processes are suspected, such as genital herpes or HSV encephalitis, especially during pregnancy, direction pathogen detection should by performed (e.g. by PCR).

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Test principle

For every membrane, strips from the middle and both ends are quality controlled using characterised sera. This verifies that antigen bands on all test strips of one lot are strictly parallel. In addition, a specific evaluation matrix is produced for every membrane, which ensures correct assignment of bands according to the exact electrophoretic separation.

Automatic processing

EUROBlotOne is a fully automatic, compact device for the standardised processing of EUROIMMUN line assays (EUROLINE, EUROLINE-WB, Westernblot) – from sample re-cognition to the final test result. Samples are pipetted by the device and all incubation and washing steps are carried out automatically. Finally the data of the pictures taken by the integrated camera are automatically evaluated by the EUROLineScan software and digitally archived. Alternatively, the immunoblot strips can be incubated by the EUROBlotMaster and scanned using the EUROBlotScanner or photographed directly in the incubation tray using the EUROBlotCamera. Also in this case, the automatic evaluation is carried out by the EUROLineScan software. The bidirectional communication with a laboratory information system for import of work lists and export of results is enabled by EUROLineScan or, optionally, the laboratory management software EUROLabOffice. A separate results sheet can be produced for each patient.

Clinical data

At the Institute for Medical Microbiology of the Westfaelische Wilhelms University in Muenster, Germany, sera from a patient panel of 194 prostitutes and 56 HSV-seronegative individuals (routine diagnostics) were analysed using the EUROIMMUN Anti-HSV-1/HSV-2 gG-2 EUROLINE-WB and three commercial anti-HSV-2 ELISAs (including the EUROIMMUN ELISA). Based on these four test systems, it was determined by majority that 91 of the 194 prostitutes were HSV-2 positive and 103 HSV-2 negative. In the case of undecided results, only the EUROLINE-WB was used for the determination. The sensitivity of the EUROIMMUN Anti-HSV-1/HSV-2 gG-2 EUROLINE-WB amounted to 98.9 %, at a specificity of 100 % (Eing et al., J Clin Microbiol 40 (2002) 407-413).

Panel	n	Anti-HSV-1/HSV-2 gG-2 EUROLINE-WB (IgG)
		IgG (%)
HSV-2-positive prostitutes	91	90 (98.9 %)
HSV-2-negative prostitutes	103	0
Precharacterised HSV-negative persons	56	0

Literature

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5. Scheper T, et al. **The glycoproteins C and G are equivalent target antigens for the determination of herpes simplex virus type 1-specific antibodies.** J Virol Meth 166 (2010) 42-47.
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