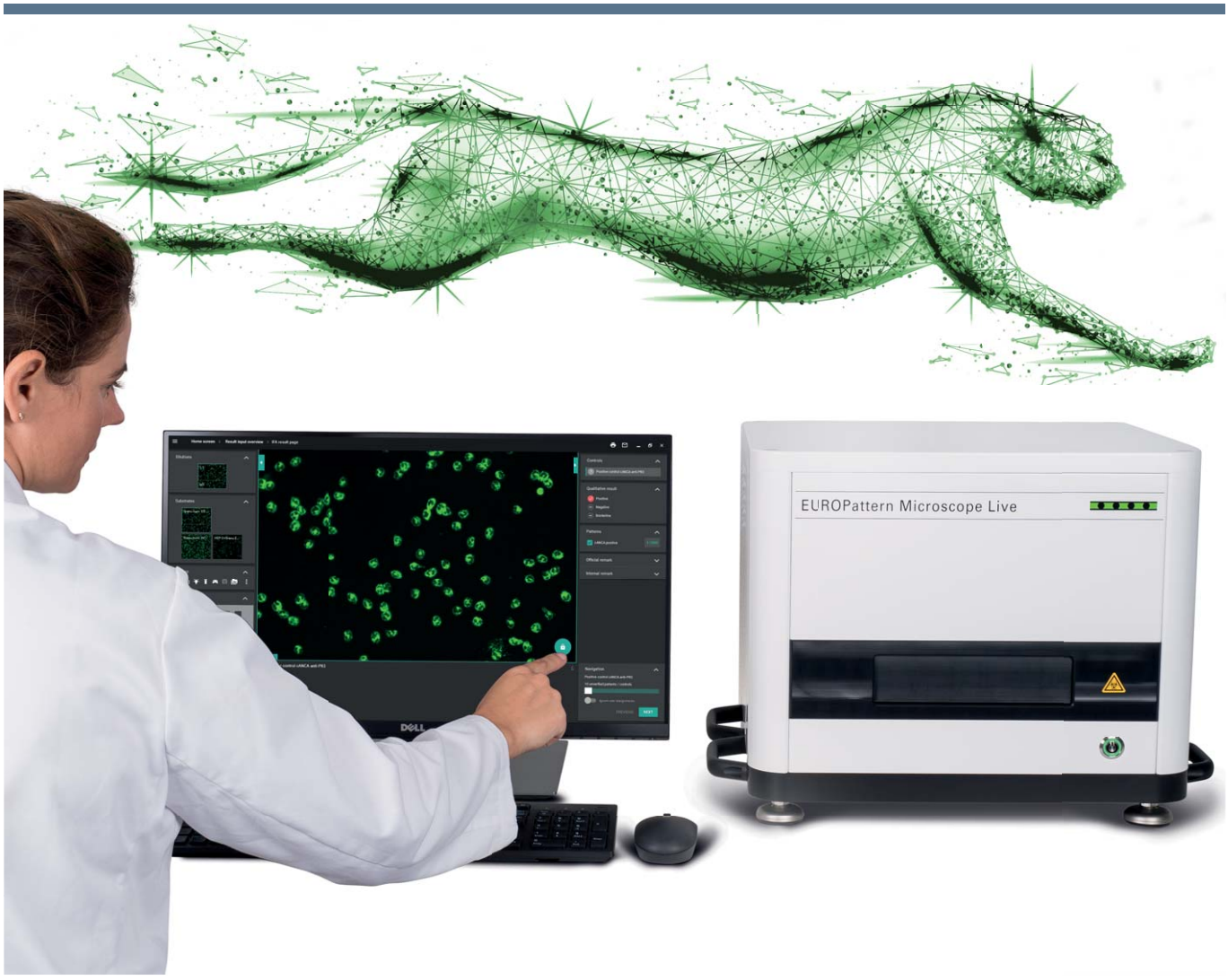
EUROIMMUN Medizinische Labordiagnostika AG

EUROPattern Microscope Live

Ultrafast computer-aided immunofluorescence microscopy



- **Fully automated image recording and state-of-the-art result evaluation on the screen – the end of the dark chamber**
- **Recording of high-quality immunofluorescence images in only two seconds**
- **Automated IIFT pattern recognition and calculation of the antibody titer based on deep learning/deep convolutional neural networks**
- **Security and traceability thanks to automated identification of slides by means of matrix codes**
- **Intuitive live microscopy with multi-touch navigation and zooming directly on the computer screen**
- **Simple operation and directional data exchange with the LIS and other automated laboratory devices via EUROLabOffice 4.0**

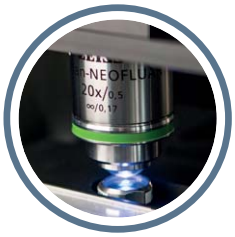
User-friendly microscopy

Compact device with lightproof housing – suited for all spatial and light conditions

- Capacity for 5 slides with up to 10 reaction fields
- Matrix code reader for slide recognition providing full traceability
- Automated image acquisition in record time due to ultrafast auto-focussing based on a novel laser focussing technology
- Compact design with only one objective (20x) for all substrates
- High-resolution camera for high-definition images

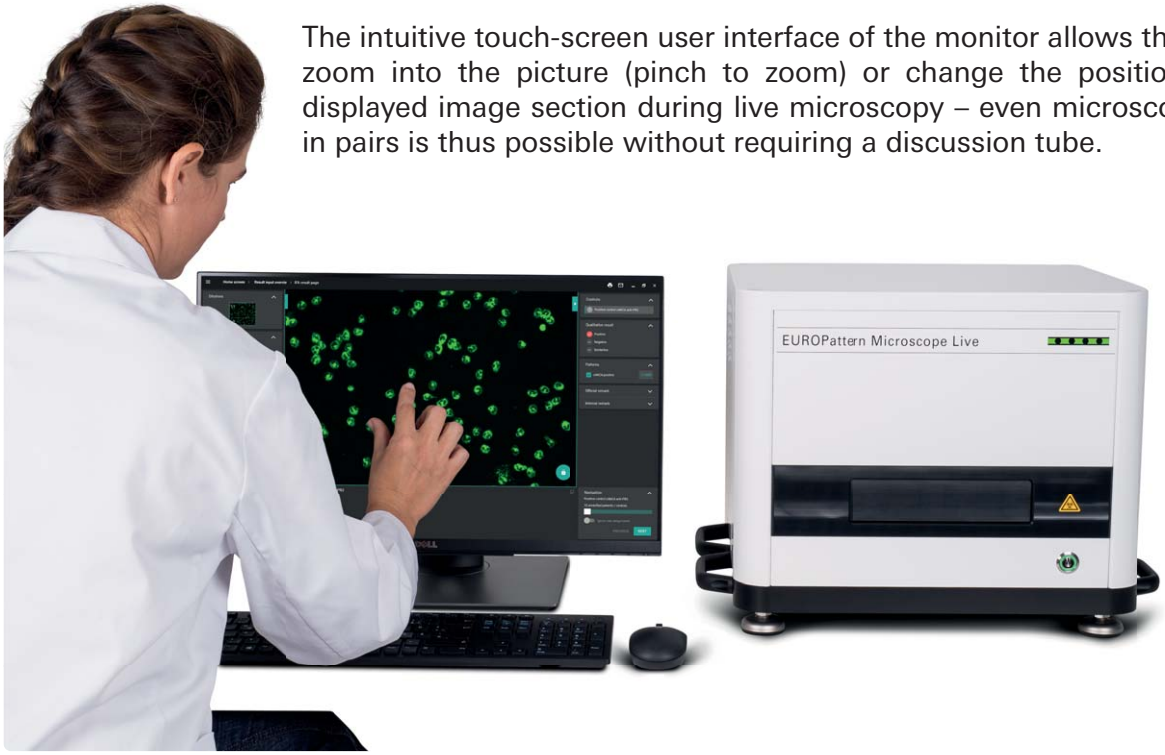
Fluorescence standardisation

- Constant and standardised fluorescence signals for all devices by means of an integrated fluorescence standard
- Unique automated calibration of the microscope for comparability between results from different devices



Live microscopy

The intuitive touch-screen user interface of the monitor allows the user to zoom into the picture (pinch to zoom) or change the position of the displayed image section during live microscopy – even microscopy work in pairs is thus possible without requiring a discussion tube.



Computer-assisted IIFT evaluation with deep learning technology

Pattern recognition based on deep convolutional neural networks

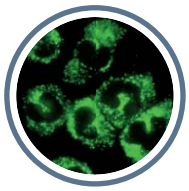
The EUROPattern Classifier, which can be integrated into EUROLabOffice 4.0, automatically generates a result proposal (including titer calculation) for a constantly growing number of substrates.
This involves classification of the detected fluorescence patterns by means of deep convolutional neural networks, an artificial intelligence method. All the individual findings obtained with the substrates and dilutions are then consolidated into one result proposal for each patient.

ANA diagnostics

- **HEp-2/HEp-20-10 cells:** Automatically generated pattern and titer proposals with confidence values for nine fluorescence patterns according to the ICAP* (homogeneous, speckled, dense fine-speckled, nucleolar, nuclear dots, centromeres, nuclear membrane, AMA and cytoplasmic) and any combinations thereof

  *ICAP: International Consensus on Antinuclear Antibody (ANA) Patterns

- **Crithidia luciliae:** Automated positive/negative classification and titer proposals based on the specific kinetoplast fluorescence for the detection of anti-dsDNA antibodies

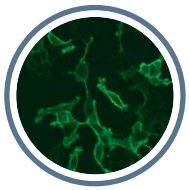


ANCA diagnostics

- **Granulocytes:** Automatically generated pattern and titer proposals with confidence values for the fluorescence patterns pANCA, cANCA and atypical ANCA

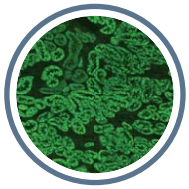
NEW **HEp-2 cells + granulocytes (EOH):** The combination BIOCHIP is used for the targeted differentiation of ANA and cytoplasmic antibodies (result is issued as ANA interference)

- **EUROPLUS antigen dots:** Automated positive/negative classification of the monospecific antigen fluorescence for confirmation and differentiation of specific diseases from the AAV range (GPA and MPA)



Diagnostics based on antigen-expressing cells

- **Neurology:** Automated positive/negative classification and titer proposal with confidence values for different antigens, e.g. AMPA 1/2, NMDAR, GABAR B1/B2, LGI1, CASPR2, DPPX, aquaporin-4 and MOG
- **Nephrology:** Automated positive/negative classification and titer proposal with confidence values for the antigens PLA2R and THSD7A

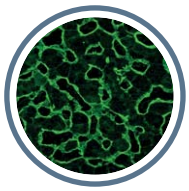


Diagnostics of autoimmune liver diseases

- **Liver (rat):** Automated positive/negative classification for relevant ANA and identification of anti-LKM-like patterns ("LKM-like", is given as "anti-LKM" pattern after a confirmatory result on kidney tissue) to support the diagnosis of autoimmune hepatitis types 1 and 2
- **Kidney (rat):** Automated positive/negative classification for AMA, specific for primary biliary cholangitis, and identification of anti-LKM-like patterns ("LKM-like", is given as "anti-LKM" pattern after a confirmatory result on liver tissue; suspected autoimmune hepatitis type 2)

NEW **Stomach (rat):** Automated positive/negative classification for ASMA

NEW **VSM47 cells (rat):** Automated positive/negative classification for microfilamentous (MF) fluorescence patterns to support the diagnosis of autoimmune hepatitis type 1



Diagnostics of autoimmune gluten-sensitive enteropathy (coeliac disease)

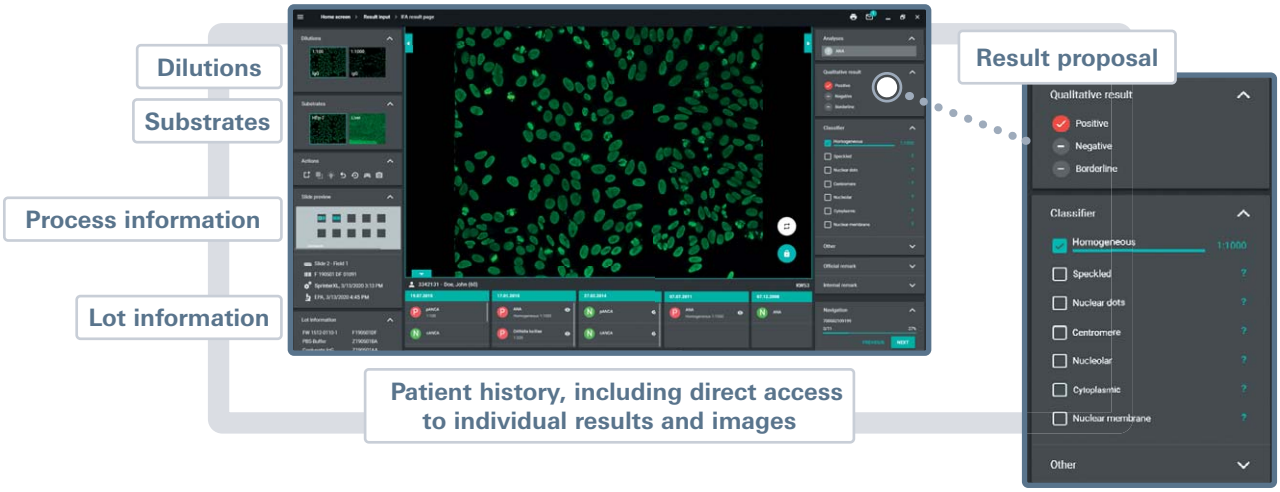
NEW **Liver (monkey) IgA:** Automated positive/negative classification for antibodies against endomysium (filamentous linings of the intralobular sinusoids) to support the diagnosis of gluten-sensitive enteropathy

NEW **Oesophagus (monkey) IgA:** Automated positive/negative classification for antibodies against endomysium (lamina muscularis) to support the diagnosis of gluten-sensitive enteropathy

Intelligent data management with EUROLabOffice 4.0

The bidirectional communication between the EUROPattern Microscope Live and the LIS is provided by the laboratory management software EUROLabOffice 4.0. Due to its complete integration in the laboratory, the user-friendly middleware enables secure, fast and traceable data exchange between different workstations and instruments as well as different locations.

All information is clearly presented in the results window. This complete view on the patient, including detailed patient history, lot and process information, dilutions and substrates as well as the automatically generated pattern and titer suggestions, enables fast and reliable result evaluation.



Scope of delivery

- EUROPattern Microscope Live (incl. camera, cLED, DataMatrix code reader, 20x objective)
- PC system, incl. control software for the EUROPattern Microscope Live
- High-resolution multi-touch monitor
- Two slide carriers for 5 slides with up to 10 reaction fields
- EUROPattern Classifier pattern recognition and result entry software
- EUROLabOffice 4.0

Technical data

- Width x depth x height: approx. 40.5 cm x 53 cm x 39 cm
- Weight: approx. 45 kg
- Power supply: 100 – 240 V AC, 60 W
- Integrated light source for fluorescence microscopy (cLED)
- Constant excitation light source (460 – 490 nm)

Subject to changes

Further information on EUROPattern Microscope Live:

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