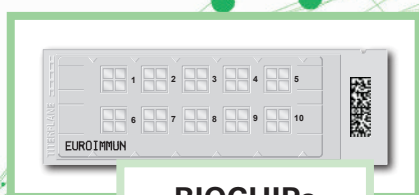
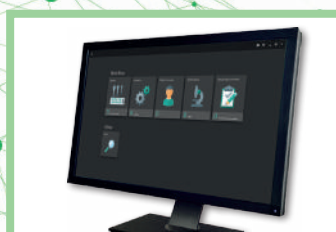




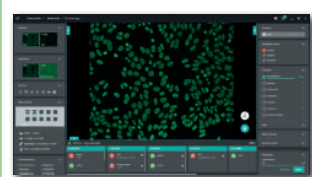
EUROIMMUN system solutions for full IFA automation



BIOCHIPs



Laboratory management



Pattern recognition



Incubation

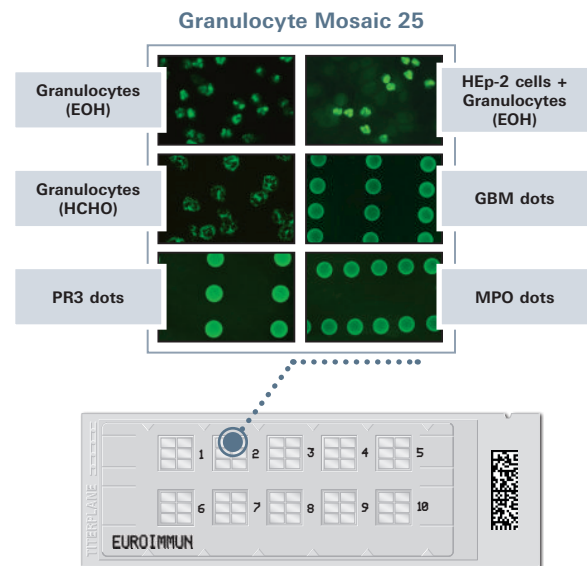


Image recording



Multiparameter analyses in IFA

- The BIOCHIP technology enables the combination of different substrates in BIOCHIP Mosaics for parallel analyses in only one test field
- Matrix-coded slides with up to 50 test fields for maximum security and traceability in laboratory diagnostics
- Example "Granulocyte Mosaic 25": the perfect combination for your ANCA diagnostics
 - Ethanol (EOH)- and formalin (HCHO)-fixed granulocytes for differentiation of vasculitis from chronic inflammatory bowel diseases (CIBD)
 - Combination of HEp-2 cells and granulocytes on one BIOCHIP allows differentiation between ANA and ANCA
 - Monospecific confirmation of results by means of PR3-MPO antigen dots (EUROPLUS) and detection of anti-GBM antibodies by means of GBM antigen dots (EUROPLUS)



EUROLabOffice 4.0 – the control centre for your laboratory



- Integrity of data and results due to an entirely paperless work process (quick, simple and reliable)
- Automated data processing and communication without transmission errors
- Automatic creation of electronic worklists
- Reporting support: day's results for a patient, patient history, search function, documentation and archiving
- Optimisation of existing laboratory processes, various expansion modules available
- Interface to laboratory management system (LIS) for bidirectional data exchange and optimal connection to EUROIMMUN devices



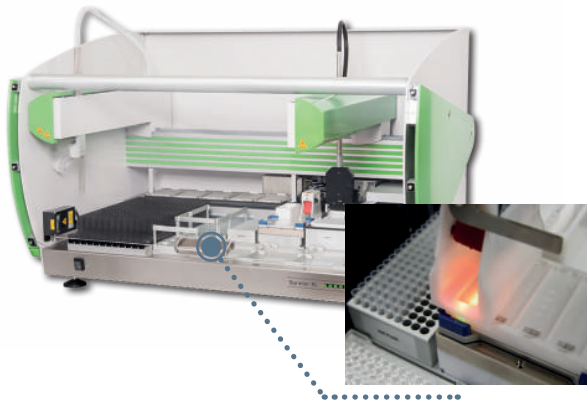
EUROLabPolaris – intelligently connected IFA diagnostics worldwide

- Digital connection of your laboratory sites and IFA specialists on a local to global scale
- Secure and flexible access to your IFA data quickly and clearly presented via web browser
- Maximal standardisation of the entire evaluation process thanks to centralised classification and evaluation of IFA results
- Significant reduction in sample logistics and reporting times





Fully automated incubation for medium to high throughput



Sprinter XL

- Up to 240 samples and 30 slides per run
- Matrix code identification of samples and slides
- Simultaneous washing of all reaction fields by flooding of the slides
- Four washable needles
- Processing IFA and ELISA on one instrument

Fully automated incubation for high throughput



EUROLabWorkstation IFA

- Over 700 samples and 750 reaction fields per run
- Barcode and matrix code identification of samples, reagents, labware and slides
- High throughput of over 200 analyses per hour
- Standardised washing of 50 reaction fields by means of the novel MERGITE! washing technology
- 10 washable needles
- Automatic mounting

Fully automated microscopy

EUROPattern Microscope

- Fully automated image recording for on-screen diagnostics for a variety of substrates
- Extremely fast system: up to 500 reaction fields in less than 2 hours (13 seconds per image)
- Magazine for 500 fields (A) with automatic supply of slides allows long walk-away periods
- Automated registration of slides by DataMatrix codes for error-free traceability
- cLED (B) for fluorescence microscopy with constant light intensity and documented quality control
- Comparable IFA images on all EUROPattern Microscopes due to unique calibration with the integrated fluorescence normal
- Different autofocus objectives (20x; optional 10x, 40x) for optimal image recording characteristics
- Optional RealDrive hand control (C) for manual microscopy, as convenient as with a normal microscope
- Eye-pieces available on request



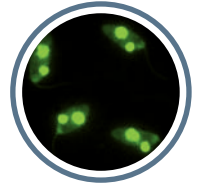


Supporting IFA evaluation with the EUROPattern Classifier

The EUROPattern Classifier is a software compatible with EUROLabOffice 4.0 that automatically generates a result proposal (including titer calculation) for a constantly growing number of substrates. Its deep convolutional neural networks, a process of artificial intelligence, were intensively trained during the development of the software. This enables the algorithm to classify fluorescence patterns reliably and quickly. All data obtained for the substrates and dilutions are consolidated into one result proposal for each patient.

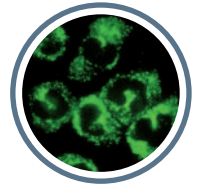
ANA diagnostics

- **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



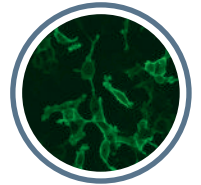
ANCA diagnostics

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



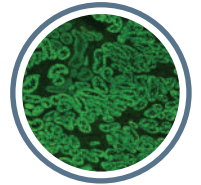
Diagnostics based on antigen-expressing cells

- **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 antigen PLA2R



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



Diagnostics of autoimmune gluten-sensitive enteropathy (coeliac disease)

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

