

OUT OF THE DARK  
INTO THE LIGHT **HELIOS**



 **AESKU.GROUP**  
WE TAKE CARE OF YOUR HEALTH

[WWW.WHATISHELIOS.COM](http://WWW.WHATISHELIOS.COM)

# IFA STANDARDIZATION

## 1 THREE NEEDLES

The patented "Three needle system" not only speeds up the process but ensures timing per well and prevents slides drying out.

## 2 IFA PROCESSING

Based on the **HELMED®** platform, the **HELIOS®** processor is capable of performing all IFA process steps automatically.

## 3 BUILT-IN LED MICROSCOPE

The integrated microscope (incorporating Nikon-based optics) is complemented by the **AESKU®** engineered motorized mount ensuring both accuracy and speed.

## 4 SLIDE BARCODE READER

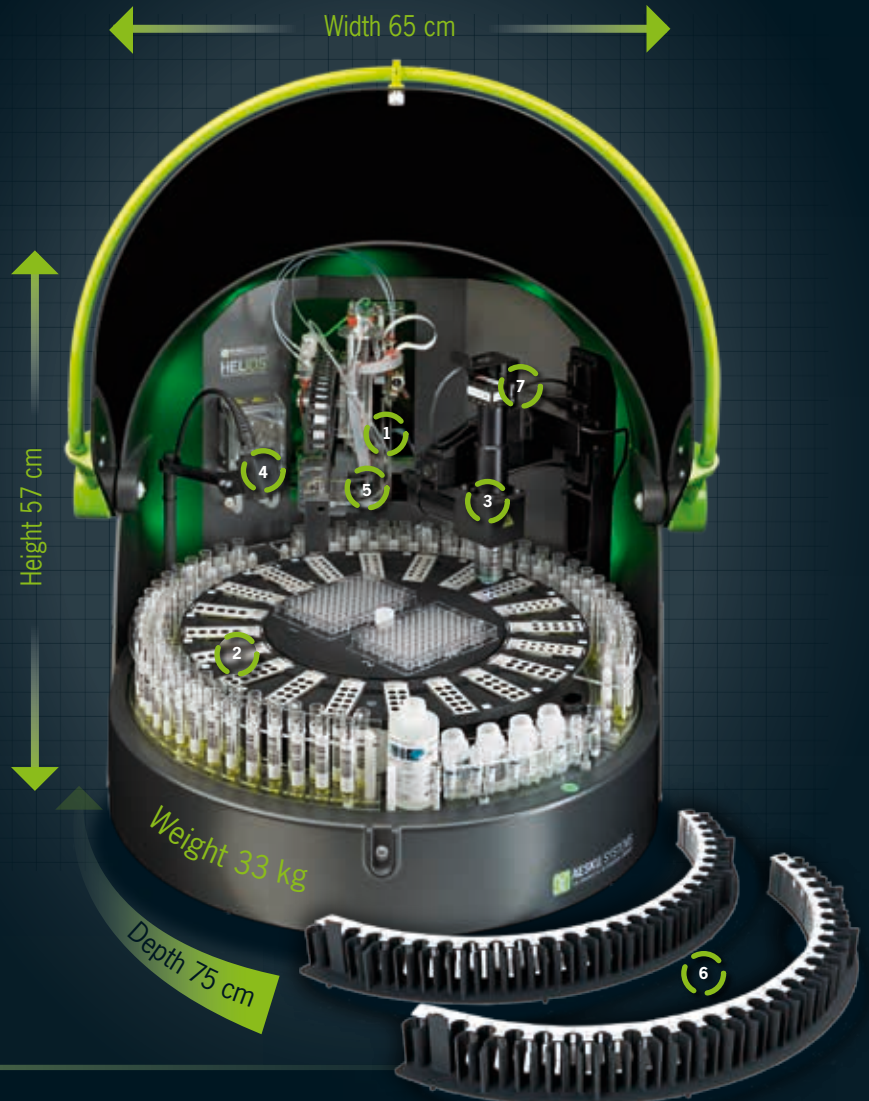
The Slide Barcode Reader provides slide traceability. **AESKUSLIDES®** are barcoded e.g. type, lot, etc. and a unique serial number, ensuring front end traceability and compliance with lab accreditation.

## 5 SAMPLE BARCODE READER

The sample barcode reader ensures sample traceability and eliminates time and error spent entering long sample ID numbers.

## 6 NEW MULTI-RACK\*

High flexibility, accepts most tubes  
Tubes are clamped in to avoid rotation during sample barcode reading.



## 7 IMAGE CAPTURE

The built-in camera performs high tech auto-focus algorithms storing multiple images per well.

### Improved Tissue Processing

With this feature tissues can be processed up to 70% faster, with increased quality (only on request).

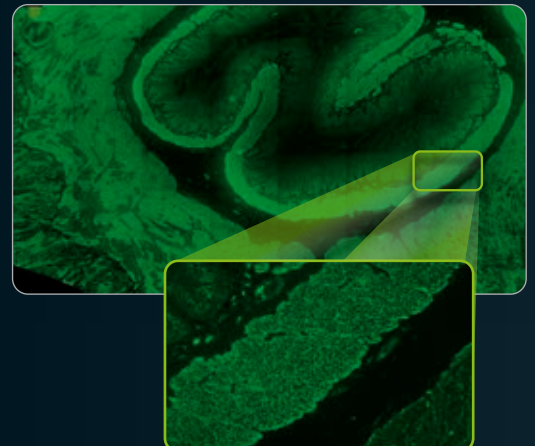
Slide Processing and Image Capturing for all Screenshots was performed exclusively using the revolutionary **HELIOS®** System under normal lab conditions.

rLKS Stitched Overview



rLKS Full Screen View (Stomach)

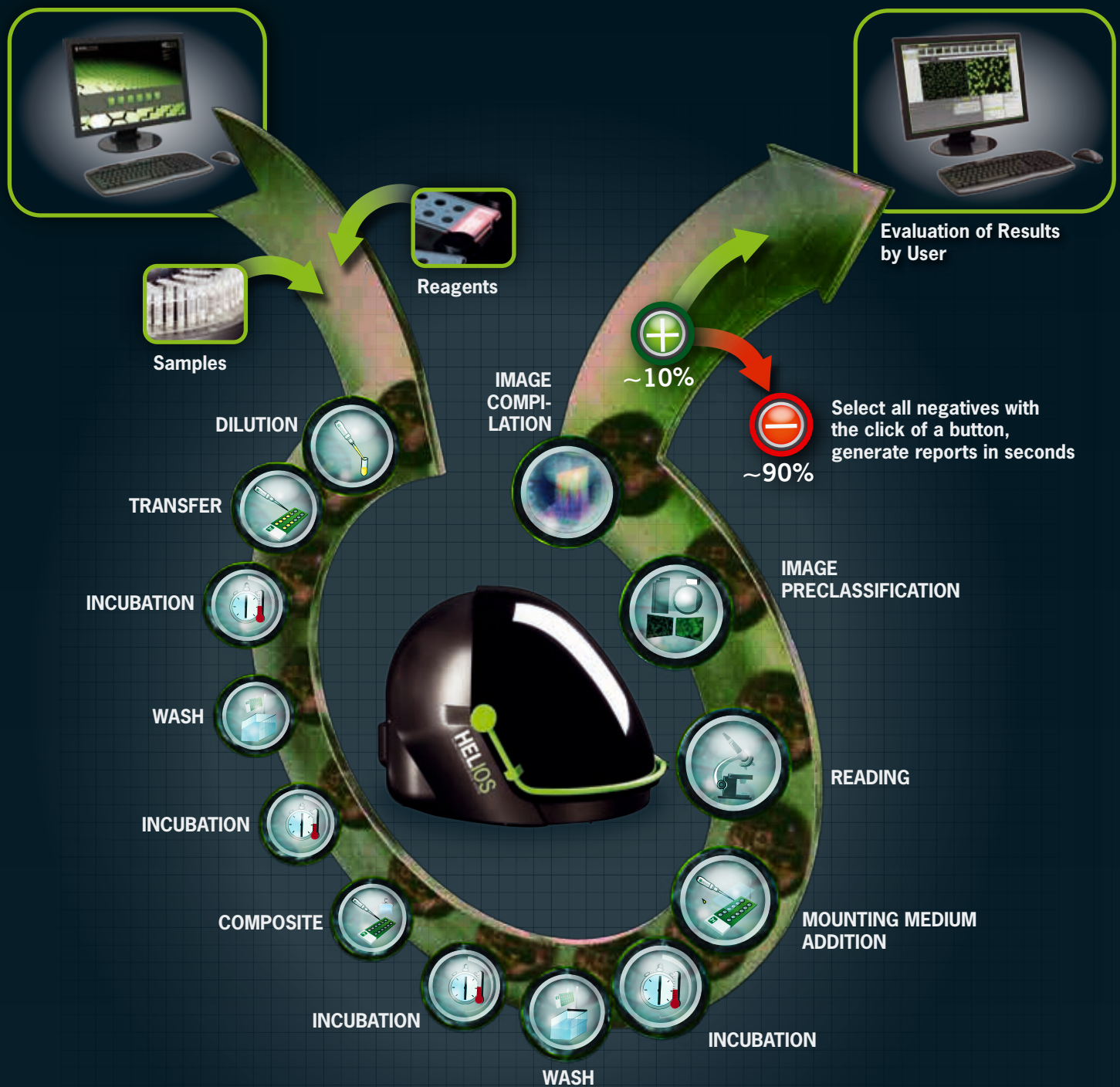
EMA Stitched Overview



EMA Full Screen View



# FULLY AUTOMATED PROCESSING



- FULL TRACEABILITY THANKS TO SLIDES BARCODED WITH UNIQUE SERIAL NUMBERS
- NO DARKROOM NEEDED
- SLIDE PROCESSING AND READING
- DIGITAL RESULTS ARCHIVE
- POWERFUL INTEGRATED IMAGE PRE-CLASSIFICATION TOOL

- STANDARDIZATION OF IFA
- HOMOGENEOUS WORKING PROTOCOL
- RESOURCE OPTIMIZATION
- INCREASED THROUGHPUT
- SAVES BOTH TIME AND MONEY
- SIMPLE IMPLEMENTATION IN LAB ROUTINE

# IFA SOFTWARE



## MODULE 1: IFA PROCESSING & IMAGE CAPTURING

The **HELIOS**® processor is capable of performing all IFA processing and reading automatically.



## MODULE 2: IFA PROCESSING

The **HELIOS**® uses the **HELMED**® IFA Software, a well-established and robust software. Here you can program standard IFA test kits regardless of their manufacturer. Non **AESKU**® slides will be processed without reading.



## MODULE 3: IMAGE CAPTURING

This module starts automatically after slide processing is complete or can be used independently from other modules.

The amount and position of images per Well is user configurable for all **AESKUSLIDES**® tests, prior to reading.

A classification suggestion (+ or -) is performed for each image for **AESKUSLIDES**® ANA Hep2 and ANCA.



## MODULE 6: LIS

Module 6 sends all classified results to the LIS. ASTM standard connection configuration is done via a user friendly entry mask.



## MODULE 5: Configuration

Module 5 is used to define the preclassification suggestion criteria by the head of the laboratory.



## MODULE 4: RESULT CONFIRMATION

All IFA-analysis data can be loaded and evaluated well by well. The evaluation process is complemented by the **AESKU**® pattern library.

Module 4 allows showing all results related to one sample. This is useful when multiple substrates are used for one sample.

The **HELIOS**® presents all preclassified negative results helping to save time by automatically creating the report with a push of a button.

### Estimated Endpoint Titer

In addition, an End Point Titer determination from one serum dilution can be performed at a glance.

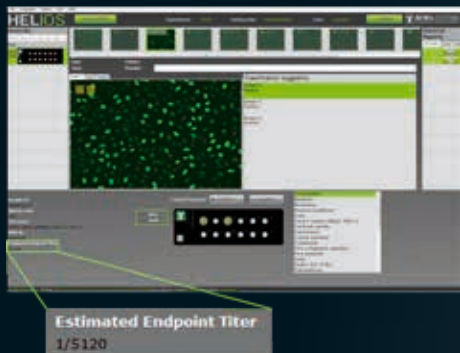
## NEW FEATURES

### Pattern Recognition Plus Add-ons\*

The Pattern Recognition Add-ons give the **HELIOS**® the ability to autonomously provide a suggestion of the most probable IFA pattern by analysing captured IFA images: Rheumatology Pattern Plus\*, Vasculitis Pattern Plus\* and DNA Pattern Plus\*.

### Estimated Endpoint Titer Option\*\*

It saves time and reagents.



\*Accessories, not included in the **HELIOS**®, sold separately

\*\*preinstalled option, activation only on customer request, activation key sold separately

# HELIOS FEATURES

PRODUCT ORDERING REFERENCES		Description
HELIOS®	REF. IOS-1000	<p>Fully Automated IFA Processor and Reader (Software/PC/Monitor included)</p> <ul style="list-style-type: none"> <li>Up to 190 samples, up to 20 slides, up to 4 different assays per run.</li> <li>Sample dilutions are prepared on a MTP, hence no pre-dilution tubes required.</li> <li>Transfers from the MTP to the slides.</li> <li>Individual well time management ensures consistent incubation times.</li> <li>Washing by cycles avoids cross contamination compared to washing by flooding.</li> <li>Automatic mounting medium addition is possible only with our specially formulated <b>AESKUSLIDES®</b> mounting medium.</li> <li>No need for coverslips or transfer slides, reading will start automatically.</li> <li>Large pattern image library included.</li> <li>Pre-classification suggestion. User confirms results and selects follow up tests.</li> <li>Show all negatives function, for fast negative classification.</li> <li>Show all results for same sample ID within the same run in one screen.</li> </ul>

HELIOS® RACK REFERENCE	75 x 12	75 x 13	75 x 13	100 x 12	100 x 12	100 x 13
Sample rack 1	20160014	20160018	20160020	20160122	20160016	20160022
Sample rack 2	20160015	20160019	20160021	20160123	20160017	20160023
Total Samples (rack 1 + 2)	106	106	190	106	190	106

NEW FEATURES ORDERING REFERENCES		Description
Estimated Endpoint Titer Option**	REF.IOS-2002	<ul style="list-style-type: none"> <li>Saves time and reagents</li> <li>Easier to find the target dilution – less dilution steps needed.</li> <li>The endpoint titer is defined as the highest dilution in which staining intensity is still detectable. It is an important indicator for the classification of immunofluorescence images. After the first screening run, a titration of positive samples is strongly recommended.</li> <li>The <b>HELIOS EPT Plus</b> offers the possibility to estimate an endpoint titer for wells that were preclassified as positive in a previous screening mode run.</li> <li>Supported by this endpoint titer estimation, the next dilution steps can easily be selected during the user classification process.</li> </ul>
Multi-Rack A1 (1-53)* Multi-Rack A2 (54-106)*	20160209 20160210	<ul style="list-style-type: none"> <li>High flexibility, accepts most tubes</li> <li>Tube diameters ranging from 11-13 mm   lengths from 55-100 mm</li> <li>Multi-Rack sample tube capacity: 106</li> <li>The design of the rack and the clamping of the sample tubes increases the overall stability</li> <li>Position numbers are clearly printed and easy to read</li> <li>The tubes are clamped in the holders to avoid rotation during the reading process of the sample barcodes</li> <li>The use of small control tubes with flat bottoms is also possible</li> </ul>
PATTERN RECOGNITION Rheumatology Pattern Plus*	REF.IOS-2101	This add-on is able to recognize the following ANA HEp-2 IFA patterns: Centromere   Cytoplasmic   Homogeneous   Nuclear membrane   Nucleolar Dots   Nucleolar   Speckled (granular)
PATTERN RECOGNITION Vasculitis Pattern Plus*	REF.IOS-2102	This add-on is able to recognize the following ANCA IFA patterns: P-ANCA   C-ANCA   A-ANCA (X-ANCA)   Undefined positive
PATTERN RECOGNITION DNA Pattern Plus*	REF.IOS-2103	This add-on is able to discriminate positive/negative nDNA samples.

\*Accessories, not included in the **HELIOS®**, sold separately

\*\*preinstalled option, activation only on customer request, activation key sold separately



# SUITABLE REAGENTS

Simplify your autoimmunity sample screening routine with **AESKUSLIDES®**. The Immunofluorescence (IFA) product line from AESKU.DIAGNOSTICS is designed to fit in with lab automation needs.



- The **AESKUSLIDES®** product line comprises a complete panel of cell and tissue based slides and kits for the detection of major autoantibodies.
- All parameters from this product line are pre-programmed and validated for use in **HELIOS®** IFA Processor.
- The major patterns found on the **AESKUSLIDES®** are collected in the **HELIOS®** device software image library.
- Easy handling: ready to use reagents and controls with vials that fit directly in the **HELIOS®** racks.
- Full traceability: every slide is labeled with product barcode and individual number.
- Especially formulated mounting medium allows its use in the **HELIOS®** IFA Processor.
- Strong hydrophobic teflon mask coating of the slides avoids cross contamination and requires minimal conjugate volumes.

AESKUSLIDES® available kit configurations			Conjugate		Slides				Kits					Recommended Screening Dilution			
Antibody	Substrate		IgG	IgA	5 well	6 well	10 well	12 well	50 tests	60 tests	100 tests	120 tests	600 tests	1:5	1:10	1:20	1:80
ANA	HEp-2		•					•				•	•				•
nDNA	Crithidia luciliae		•				•				•				•		
ANCA	Granulocytes	Ethanol	•			•		•		•		•				•	
		Formalin	•			•		•		•		•	•			•	
AMA/ASMA/APCA	Triple tissue LKS*	Mouse (Separated)	•		•		•		•		•					•	
		Rat (Separated)	•		•		•		•		•					•	
		Rat (Wrapped)	•		•		•		•		•					•	
EMA	Primate Oesophagus		•	•	•		•		•		•			•			

\* Double tissue KS available on request

HELIOS FULLY AUTOMATED IFA SYSTEM and accessories is currently not available in the USA (subject to FDA clearance).

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