# Catalog
Immunofluorescence assays (IFA)

**MEDIPAN**

# The IFA-Galaxy
## Instruments & Assays

KENOMI®

kiron®

KLIDES®

CytoBead

CytoBead

# Welcome to our galaxy of automated immunofluorescence assays (IFA)

Reducing manual routines is an effective step to save time and money

## ⅄KENOMI®

**Perfect Sample Preparation!**
Designed as a highly flexible and cost-effective part of our IFA automation cascade
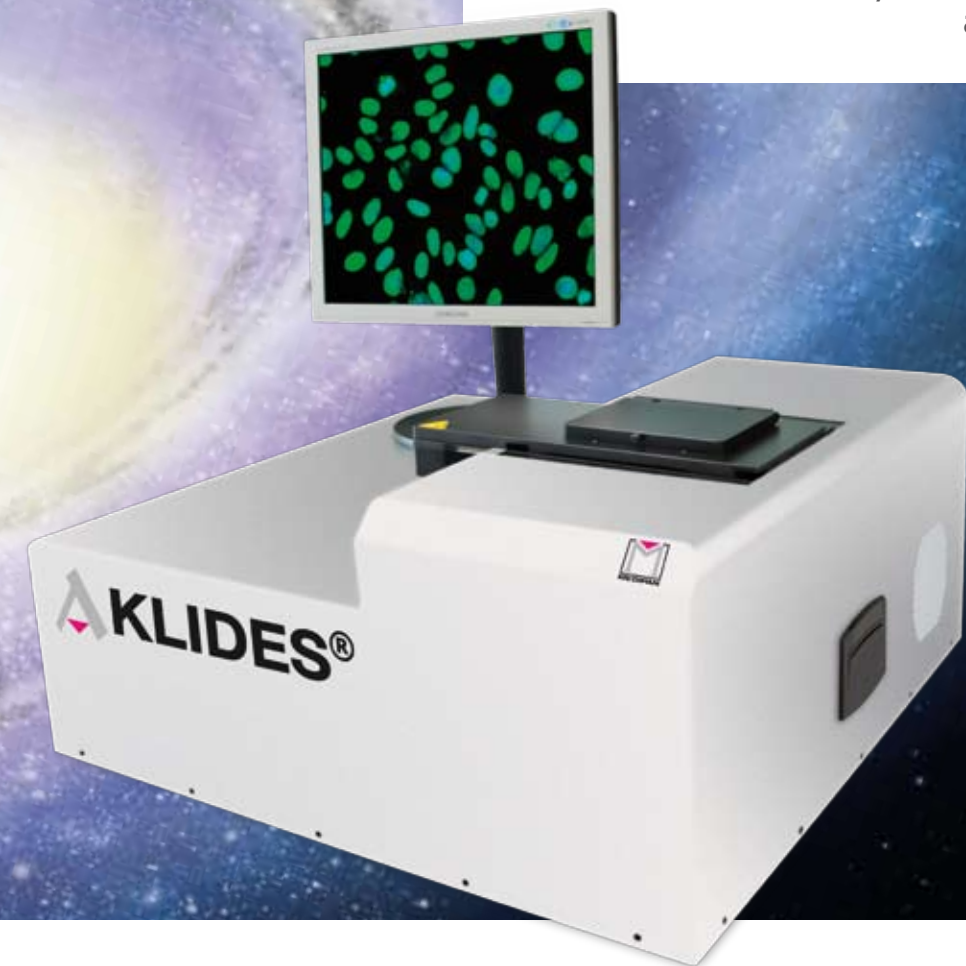
## ⅄KLIDES®

**Standardization of IFA**
The first system for automated analysis of IFA

Optimized data transfer to ...

... AKLIDES® or akiron®

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The **AKENOMI®** is a compact and easy handling instrument, providing cost-effective automation for IFA assays and performing all of the following assay processes:

- **sample pipetting**
- **slide washing**
- **reagent addition and incubation**

### Time and Space Saving
**AKENOMI®** helps to maximize your working area through parallel handling of 8 slides, 48 samples and 248 dilutions in less then 2 hours.

### Flexible Application
The **AKENOMI®** software is designed to maximize flexibility for IFA applications. Up to 4 different methods can be programmed and processed independently. Two wash solutions, 4 different conjugates and up to 8 controls can be used in parallel. A two needle wash system guarantees efficient washing without any carry over.

### Barcode Reader
The **AKENOMI®** has two different barcode readers:
1D to identify samples and reagents and 2D for the slides.

### Reliable Connection
The **AKENOMI®** is optimized for **AKLIDES®**, **akiron®** and LIMS connection.

Sample rack

Barcode reader and double needle

The **AKLIDES®** technology was the first automated system for the immunofluorescence (IF) standardization in routine laboratories for autoimmunity. Meanwhile **AKLIDES®** is also applicable in the field of cell damage and microbiology. Main features of the automated system in autoimmunity are:

### Analysis
Analysis of fluorescence patterns and quantification of fluorescence intensities is provided by **AKLIDES®**. The system offers a standardized positive-negative decision and pattern recognition in less than 30 seconds per well. Assays for ANA, ANCA, nDNA, tissues and **CytoBead®** are available with fully automated analysis.

### Image Storage
**AKLIDES®** automatically stores the fluorescence images and defined patterns of each sample. This allows digital archiving over years and searching of results in an internal database.

### Intensity Calibration
The **AKLIDES®** calibration slides are characterized by stable fluorescence for years. Yearly calibration leads to an even better standardization.

### Titer Detection
Due to the **AKLIDES®** titer detection algorithm titration of patient samples for the cell-based assays is no longer needed.

### Assess Result Whenever You Like
The **AKLIDES®** Doctor software allows access to the **AKLIDES®** analysis data from every work space. With the appropriate network structure, working via internet is also possible.

### Export Options
**AKLIDES®** can generate an overall report of all relevant quantitative results in pdf- and csv-format and/or a single well report in pdf-format (including cell images). This allows the laboratory to seek instrument independent expert opinion worldwide by sending the reports by e-mail. Furthermore connecting to LIMS is also possible.

### Modular Software Design
The **AKLIDES®** software is the key component of the system. The software guarantees optimal image processing and fully automated analysis of immunofluorescence signals using intelligent image processing algorithms. The modular design allows to buy just the software licenses needed.

# Small Solution for Automated IFA

# Next Generation IFA

## *akiron*®

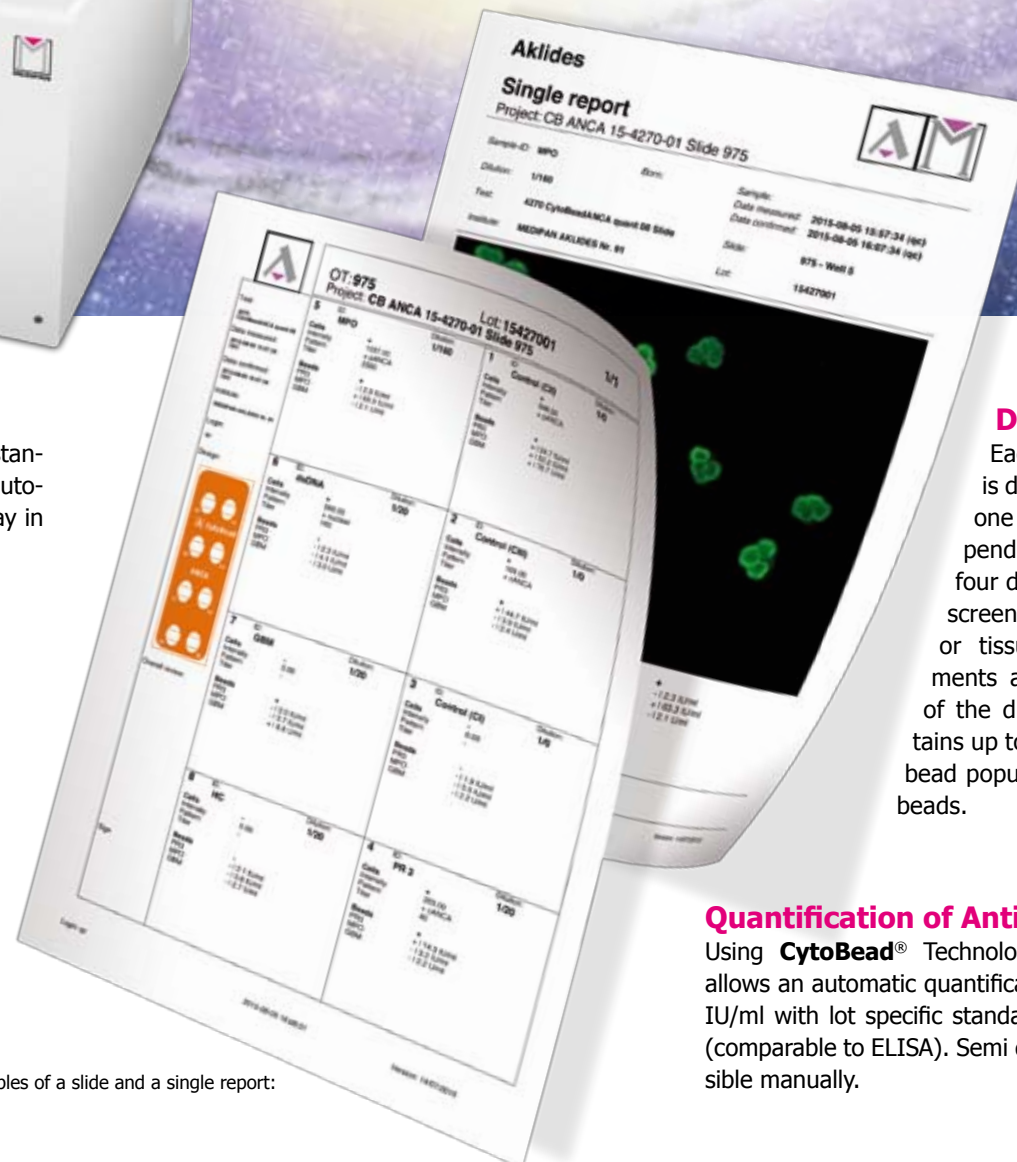**Small ... Smart ... Fast**
Automated IFA analysis for autoimmunity

## CytoBead® Technology

**New Combinations, New Possibilities!**
Fast and easy diagnostic assays to perform screening
and differentiation in one well simultaneously

Option

**Data
transfer
from
AKENOMI®**

*akiron*®

**ANA
ANA 2**

**ANCA
RPGN**

**CeliAK**

**Aklides**
**Single report**
Project: CB ANCA 15-4270-01 Slide 975

### Inexpensive Solution for Automated IFA
The **akiron**® is the smaller version of the **AKLIDES**® for the fully automated and stan-
dardized imaging and data processing of immunofluorescence assays in the field of auto-
immune diagnostics. High quality, simple and universal, it proves its worth every day in
the laboratory, particularly in those with limeted labspace.

### The akiron® system can perform:
- Recognition and analysis of fluorescence patterns for ANA and ANCA
- Quantification of fluorescence intensities for individual patterns
- End point titer analysis for ANA and ANCA
- Overview images for tissue sections
- Measurement and quantification of microparticle reactivities (CytoBead®)
- Generation and adaptation of measured and lot specific standard curves
  (CytoBead®)
- Documentation and archiving of data and images (pdf- or csv-format)
- Access to the analysis data from every work space with the **AKLIDES**®
  Doctor software

Examples of a slide and a single report:
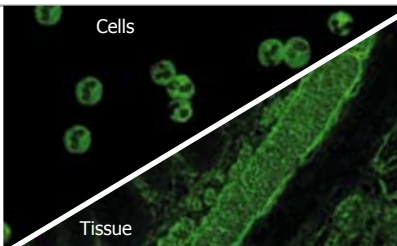
### Description of Technology
Each slide has eight wells. Each well
is divided in different compartments:
one screening-compartment and, de-
pending on the application, two or
four differentiation-compartments. The
screening-compartment contains cells
or tissue, the differentiation-compart-
ments antigen-coated-microbeads. Each
of the differentiation-compartments con-
tains up to two differently coated and sized
bead populations and additionaly reference
beads.

### Quantification of Antibodies
Using **CytoBead**® Technology with **AKLIDES**® or **akiron**®
allows an automatic quantification of antibody levels in U/ml or
IU/ml with lot specific standard curves and 4-point calibration
(comparable to ELISA). Semi quantification of antibodies is pos-
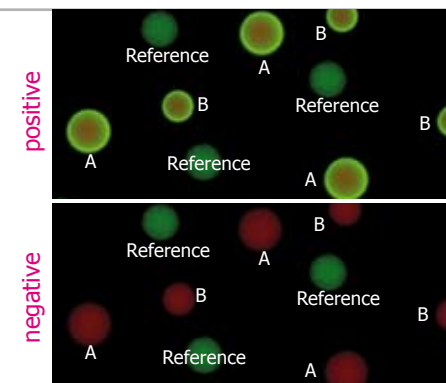sible manually.

**Screening
compartment:**
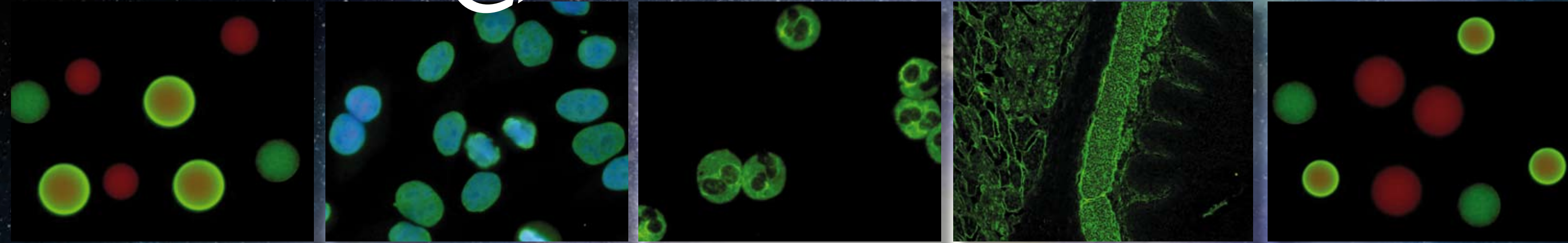
Cells

Tissue

- Cells or tissue

**Differentiation
compartments:**

positive

Reference
A
B
Reference
B
Reference
A
Reference
A

negative

Reference
A
B
Reference
B
Reference
A
Reference
A

- Up to 2 different
  antigen-coated-
  microbeads (A, B)
- Reference beads

# BytoBead® Assays

## CytoBead® ANA/ANA 2

Slide

Well Layout
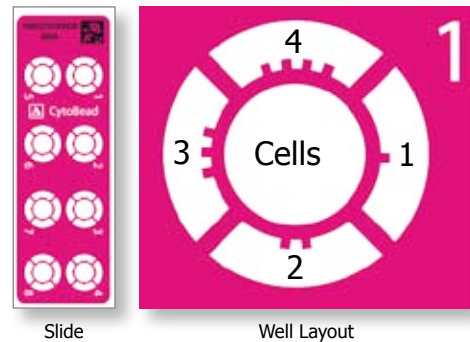
ANA (Anti-Nuclear Antibodies) are autoantibodies (AAB) which recognize conserved nuclear antigens. In indirect immunofluorescence on human tumor cell monolayers, such as HEp-2 cells, these antibodies show a characteristic staining of nuclear structures. The classification of ANA is done according to the target antigens.

### Advantages of the CytoBead® ANA /ANA 2 Test
- Screening with standardized human tumor cell monolayers (HEp-2 cells)
- Differentiation of 8 different ANA specificities
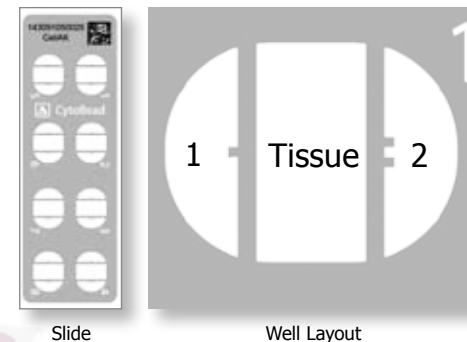
**Only ANA Test:**
Compartment 1: CENP-B

**Only ANA 2 Test:**
Compartment 1: Jo-1

**ANA and ANA 2 Test:**
Compartment 1: La
Compartment 2: Sm and RNP-Sm
Compartment 3: dsDNA and Scl-70
Compartment 4: Ro60 and Ro52

## CytoBead® CeliAK

Slide

Well Layout

Celiac disease (gluten-induced enteropathy) is a gluten-related disorder. Intake of gluten leads to extended lesions of the mucous membranes, which manifests as a 'flat' mucosa. Gliadin, the alcohol-soluble fraction of gluten, is responsible for the emergence of celiac disease. Gliadin induces inflammatory processes in the small intestinal mucosa as part of the humoral and cellular immune processes. The serological diagnosis of celiac disease comprises the detection of highly specific autoantibodies (AAB) against transglutaminase 2 (tissue transglutaminase, tTG) and deamidated gliadin (DG). Endomysial antibodies (EmA) are directed against extracellular tTG. Celiac antibodies are typically of IgA class. In celiac patients with IgA deficiency, antibodies of the IgG type form the basis of diagnostics.

### Advantages of the CytoBead® CeliAK Test
- Screening with standardized monkey esophagus tissue
- Parallel determination of tTG and DG antibodies as well as total IgA

Compartment 1: tTG and DG / Compartment 2: Anti-IgA

## CytoBead® ANCA/RPGN

Slide

Well Layout
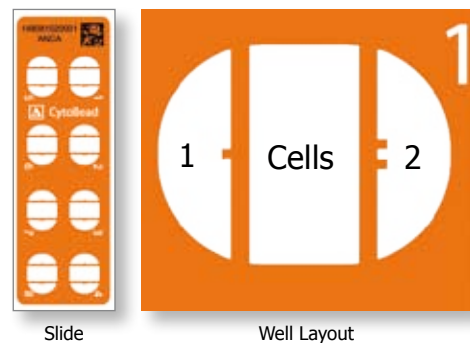
ANCA (Anti-Neutrophil Cytoplasmic Antibodies) play an important role in the diagnosis of systemic vasculitides. They are usually detected using indirect immunofluorescence (IIF) tests with ethanol fixed granulocytes. Cytoplasmic (cANCA) and perinuclear ANCA (pANCA) IIF patterns can be differentiated.
RPGN (Rapid Progressive Glomerulo-Nephritis) is for use in emergency situations.

### Advantages of the CytoBead® ANCA Test
- Screening with standardized ethanol fixed human granulocytes
- Differentiation of 3 different antibody specificities

Compartment 1: GBM / Compartment 2: PR3 and MPO

### Advantages of the CytoBead® RPGN Test
- Screening with standardized ethanol fixed human granulocytes
- Differentiation of 4 different antibody specificities

Compartment 1: GBM and dsDNA / Compartment 2: PR3 and MPO

## Order information:

### CytoBead® Assays for Automation (AKLIDES®, akiron®)

**AKLIDES® CytoBead® ANA** (10 x 8)   - Order no. 4272
**AKLIDES® CytoBead® ANA 2** (10 x 8) - Order no. 4277
**AKLIDES® CytoBead® ANCA** (6 x 8)   - Order no. 4270
**AKLIDES® CytoBead® RPGN** (6 x 8)   - Order no. 4281
**AKLIDES® CytoBead® CeliAK** (6 x 8) - Order no. 4271

### CytoBead® Assays for Manual Handling

**CytoBead® ANA** (10 x 8)   - Order no. 8065
**CytoBead® ANA 2** (10 x 8) - Order no. 8220
**CytoBead® ANCA** (6 x 8)   - Order no. 8063
**CytoBead® RPGN** (6 x 8)   - Order no. 8066
**CytoBead® CeliAK** (6 x 8)  - Order no. 8064

# AKLIDES® Cell Based Assays
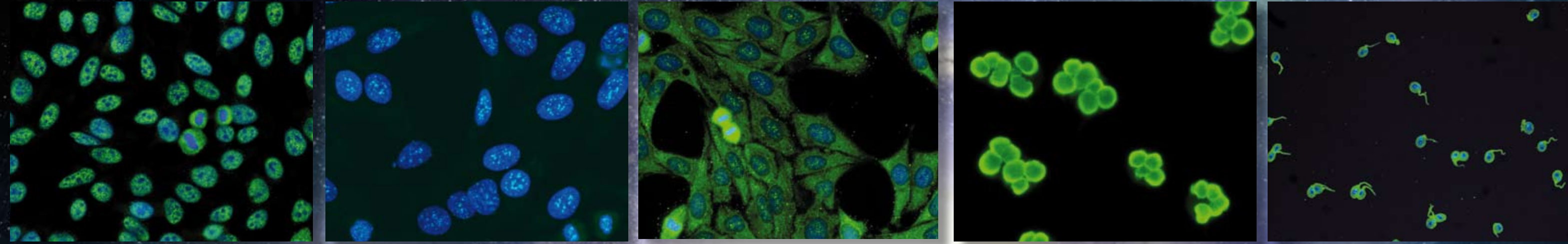
## ANA plus

Indirect immunofluorescence test for the determination of IgG antibodies against nuclear (ANA) and cytoplasmic antigens in human serum.

**Conjugate:** Anti-human-IgG-FITC
**Format:** Slides with HEp-2 cells

| Designation: **AKLIDES® ANA plus (10x12)** | Determinations: 120 | Order no.: 4065 |
|---|---|---|
| Designation: **AKLIDES® ANA plus (40x12)** | Determinations: 480 | Order no.: 4063 |

## cANCA

Indirect immunofluorescence test for the determination of IgG antibodies against neutrophil cytoplasmic antigens (ANCA) in human serum

**Conjugate:** Anti-human-IgG-FITC
**Format:** Slides with human granulocytes (ethanol fixed)

| Designation: **AKLIDES® cANCA (10x6)** | Determinations: 60 | Order no.: 4060 |
|---|---|---|

## nDNA

Indirect immunofluorescence test for the sensitive determination of IgG antibodies against native DNA in human serum

**Conjugate:** Anti-human-IgG-FITC
**Format:** Slides with Crithidia luciliae cells

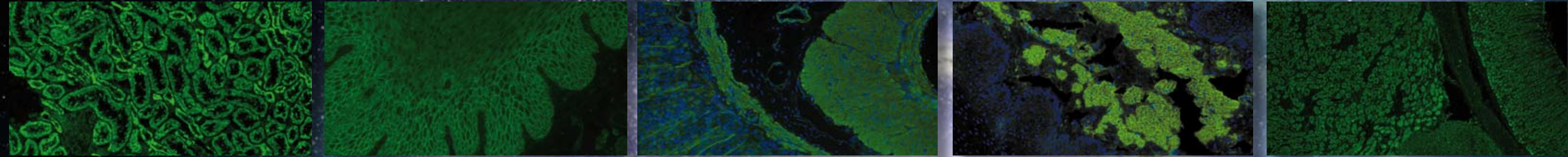| Designation: **AKLIDES® nDNA (10x6)** | Determinations: 60 | Order no.: 4282 |
|---|---|---|
| Designation: **AKLIDES® nDNA (10x12)** | Determinations: 120 | Order no.: 4283 |

## pANCA

Indirect immunofluorescence test for the confirmation of IgG antibodies against neutrophil cytoplasmic antigens (ANCA) in human serum

**Conjugate:** Anti-human-IgG-FITC
**Format:** Slides with human granulocytes (formalin fixed)

| Designation: **AKLIDES® pANCA (10x6)** | Determinations: 60 | Order no.: 4072 |
|---|---|---|

# AKLIDES® Tissue Based Assays



## AMA

Indirect immunofluorescence test for the determination of anti-mitochondrial antibodies (AMA) in human serum

**Conjugate:** Anti-human-IgG-FITC    **Format:** Slides with rat kidney sections

| **Designation:** AKLIDES® AMA (12x4) | **Determinations:** 48 | **Order no.:** 4117 |

## ASMA

Indirect immunofluorescence test for the determination of antibodies against smooth muscles (ASMA) in human serum

**Conjugate:** Anti-human-IgG-FITC    **Format:** Slides with rat stomach sections

| **Designation:** AKLIDES® ASMA (12x4) | **Determinations:** 48 | **Order no.:** 4119 |

## Triple

Indirect immunofluorescence test for the determination of antibodies (ANA/AMA/ASMA/PCA) in human serum

**Conjugate:** Anti-human-IgG-FITC    **Format:** Slides with sections of rat liver/stomach/kidney

| **Designation:** AKLIDES® Triple (12x4) | **Determinations:** 48 | **Order no.:** 4121 |
| **Designation:** AKLIDES® Triple (12x8) | **Determinations:** 96 | **Order no.:** 4122 |

## Anti-GBM

Indirect immunofluorescence test for the determination of antibodies against the glomerular basement membrane (GBM) in human serum

**Conjugate:** Anti-human-IgG-FITC    **Format:** Slides with monkey kidney sections

| **Designation:** AKLIDES® Anti-GBM (12x4) | **Determinations:** 48 | **Order no.:** 4123 |

## ASA

Indirect immunofluorescence test for the determination of antibodies against skin antigens (ASA) in human serum

**Conjugate:** Anti-human-IgG-FITC    **Format:** Slides with monkey esophagus

| **Designation:** AKLIDES® ASA (12x4) | **Determinations:** 48 | **Order no.:** 4125 |

## ICA

Indirect immunofluorescence test for the determination of antibodies against islet cell antigens (ICA) in human serum

**Conjugate:** Anti-human-IgG-FITC    **Format:** Slides with monkey pancreas

| **Designation:** AKLIDES® ICA (12x4) | **Determinations:** 48 | **Order no.:** 4129 |

## CMA

Indirect immunofluorescence test for the determination of antibodies against cardiac muscle antigens (CMA) in human serum

**Conjugate:** Anti-human-IgG-FITC    **Format:** Slides with monkey heart muscle

| **Designation:** AKLIDES® CMA (12x4) | **Determinations:** 48 | **Order no.:** 4133 |

## EmA

Indirect immunofluorescence test for the determination of IgA antibodies against the endomysium (EmA) in human serum

**Conjugate:** Anti-human-IgA-FITC    **Format:** Slides with monkey esophagus

| **Designation:** AKLIDES® EmA (12x4) | **Determinations:** 48 | **Order no.:** 4131 |
| **Designation:** AKLIDES® EmA (12x8) | **Determinations:** 96 | **Order no.:** 4132 |

## SkMA

Indirect immunofluorescence test for the determination of antibodies against skeletal muscle antigens (SkMA) in human serum

**Conjugate:** Anti-human-IgG-FITC    **Format:** Slides with monkey skeletal muscle

| **Designation:** AKLIDES® SkMA (12x4) | **Determinations:** 48 | **Order no.:** 4135 |

## AAA

Indirect immunofluorescence test for the determination of antibodies against adrenal cortex antigens in human serum

**Conjugate:** Anti-human-IgG-FITC    **Format:** Slides with monkey adrenal cortex

| **Designation:** AKLIDES® AAA (12x4) | **Determinations:** 48 | **Order no.:** 4156 |

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