

50 YEARS Human

imTEC Product Catalog Autoimmune DX



imTEC

Human

Diagnostics Worldwide

HUMAN Diagnostics

Autoimmune DX Product Catalog

The logo graphic consists of a thick red horizontal bar on the left that transitions into a stylized, multi-colored (red, orange, yellow) chevron shape pointing to the right.

Human

Diagnostics Worldwide

HUMAN Diagnostics

Global player. Local solutions. Individual support.

2

Autoimmune Diagnostics - Quality Made in Germany



For 50 years, HUMAN has offered a comprehensive product portfolio with German quality standards, providing reliable solutions that meet the most diverse local requirements. This also includes innovative test systems for autoimmune diseases in the field of laboratory diagnostics.

For more than 30 years, the brand name IMTEC has been synonymous for high-quality and future-oriented products in the field of autoimmune diagnostics. IMTEC ELISAs and line Immunoassays are developed and produced by a team of dedicated experts at our development and production site in Magdeburg. The IMTEC product range offers solutions for different throughput and automation needs.

Patented processes and the worldwide growing demand for our products are proof of our reliability and innovation.

The entire IMTEC product line is CE certified and is distributed worldwide by our qualified partners.



Seit 50 Jahren bietet HUMAN ein breites und umfassendes Produktportfolio mit deutschen Qualitätsstandards im Bereich der Labordiagnostik an. Wir haben zuverlässige Lösungen und Dienstleistungen für die unterschiedlichsten lokalen Anforderungen; dazu zählen auch innovative Testsysteme für Autoimmunerkrankungen im Bereich der Labordiagnostik.

Der Markenname IMTEC steht seit über 30 Jahren für qualitativ hochwertige und zukunftsorientierte Produkte im Bereich der Autoimmundiagnostik. IMTEC ELISAs und Line Immunoassays werden von einem Team engagierter Experten am Standort Magdeburg entwickelt und produziert. Die IMTEC Produktpalette bietet Lösungen für verschiedene Durchsatz- und Automatisierungsbedürfnisse.

Patentierter Verfahren und die stetig wachsende Nachfrage nach unseren Produkten sind der Beweis für Zuverlässigkeit und Innovation.

Die gesamte IMTEC Produktlinie ist CE zertifiziert und wird weltweit von unseren qualifizierten Partnern vertrieben.



50 YEARS HUMAN



Depuis 50 ans, HUMAN propose une gamme de produits complète aux normes de qualité allemandes, fournissant ainsi des solutions fiables, conformes aux exigences locales les plus diverses. Dans le domaine des diagnostics de laboratoire, le choix de produits comprend également des systèmes de test innovants pour les maladies auto-immunes.

En matière de diagnostics auto-immuns, la marque IMTEC est depuis plus de 30 ans synonyme de produits de haute qualité tournés vers l'avenir. Les dosages ELISA et LIA de IMTEC sont développés et produits sur notre site de développement et de production de Magdebourg par une équipe d'experts dédiés. La gamme de produits IMTEC offre des solutions pour différents débits et niveaux d'automatisation.

Les processus brevetés et la demande mondiale croissante de nos produits sont les preuves de notre fiabilité et de notre esprit novateur.

La ligne entière de produits IMTEC est certifiée CE et est distribuée aux quatre coins du monde par nos partenaires qualifiés.



Desde hace ya 50 años, HUMAN ofrece una amplia cartera de productos y soluciones fiables con estándares de calidad alemanes adaptados a los requisitos locales más diversos. Sus innovadoras soluciones sobresalen, entre otros, en el sector del diagnóstico de laboratorio de enfermedades autoinmunes.

La marca IMTEC se considera un referente del campo del diagnóstico de enfermedades autoinmunes desde hace 30 años, gracias a sus innovadores productos de alta calidad y soluciones para distintas cargas de trabajo y niveles de automatización. Nuestro equipo de expertos se encarga del desarrollo y la producción de las pruebas ELISA y los inmunoensayos lineales de IMTEC en Magdeburgo.

La prueba de nuestra fiabilidad e innovación está en nuestros procesos patentados y la creciente demanda global de nuestros productos.

Todos los productos de la línea IMTEC cuentan con el marcado europeo CE y se distribuyen en todo el mundo de la mano de nuestros socios distribuidores cualificados.

HUMAN Group

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Global player. Local solutions. Individual support.

With its worldwide network of subsidiaries and distributors HUMAN guarantees being close to the users, providing service and support.

Distribution areas are dark grey colored.



Germany-based offices

1 Headquarters

**HUMAN Gesellschaft für
Biochemica und Diagnostica mbH**

Max-Planck-Ring 21
65205 Wiesbaden
Germany

Phone: +49 6122 99880
Email: info@human.de
www.human.de

2 Production Site

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Email: info@human.de

3 LABiTec®

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GmbH**

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Regional offices and training centre

4 Asia Pacific

HUMAN Diagnostics Asia Pacific Pte. Ltd.

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Email: asiapacific@human.de

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5 India

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Email: a.singh@human.de

7 China

HUMAN Diagnostics (Beijing) Limited

HUMAN Biochemical and Diagnostics GmbH Beijing Representative Office

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Email: china@human.de

9 HUMAN Training Centre Africa

Chem-Labs Ltd.

Human House Ngara West Rd
00600 Nairobi
Kenya
Email: human@human.de

Committed to Quality



Quality is the essence

For HUMAN, quality is not simply a phrase, it is the essence of our philosophy. For 50 years, HUMAN has always acted in accordance with internationally recognized quality standards. Nowadays HUMAN's facilities, processes and products are in full compliance with the highest quality standards as, e.g., proven by a certified quality management system or a CE-conformity assessment procedure in compliance with the European IVD Regulation. A certification of our quality management system in

accordance with the international standards EN ISO 9001:2015 and EN ISO 13485:2016, guarantees that all our products are designed, manufactured, controlled and delivered to match with the requirements and high expectations of our customers worldwide. HUMAN's quality management system has proven to be equivalent with GMP requirements as demonstrated by successfully passed inspections from foreign authorities.

Certificate

mdc medical device certification GmbH
certifies that

Human

Gesellschaft für Biochemica und Diagnostica mbH
Max-Planck-Ring 21
65205 Wiesbaden
Germany

with the location

Stegelitzer Straße 3
39126 Magdeburg

for the scope

development, manufacturing and distribution of reagents, reagent products, calibrators and control materials for clinical chemistry, haematology, haemostasis, immune chemistry as well as analyzers for in-vitro diagnosis, distribution of test kits for molecular biology analyses as well as rapid tests for the diagnosis of infectious diseases.

has introduced and applies a

Quality Management System

The mdc audit has proven that this quality management system meets all requirements of the following standard

EN ISO 13485

Medical devices – Quality management systems – Requirements for regulatory purposes

EN ISO 13485:2016 + AC:2016 - ISO 13485:2016

Valid from	2022-03-12
Valid until	2025-03-11
Registration no.	D1030000084
Report no.	P21-01793-219732
Stuttgart	2022-03-10

Head of Certification Body



mdc medical device certification GmbH
Kriegerstraße 4
D-70181 Stuttgart, Germany
Phone: +49-(0)711-253597-0
Fax: +49-(0)711-253597-10
Internet: <http://www.mdc-cd.de>



CERTIFICATE

ISO 14001:2015

for

Human

Gesellschaft für Biochemica und Diagnostica mbH

at the sites

Max-Planck-Ring 21, 65205 Wiesbaden und
Stegelitzer Straße 3, 39126 Magdeburg

The DAU-accredited environmental verifier hereby certifies that the named organization has implemented an Environmental Management System.

scope: development, manufacturing and distribution of in vitro diagnostic products and analyzers

With an audit it has been assessed that the requirements of ISO 14001:2015 are fulfilled.

Nürnberg, 30 August 2021

The follow-up certificate No. UG0835-2021 is valid until 26 August 2024.

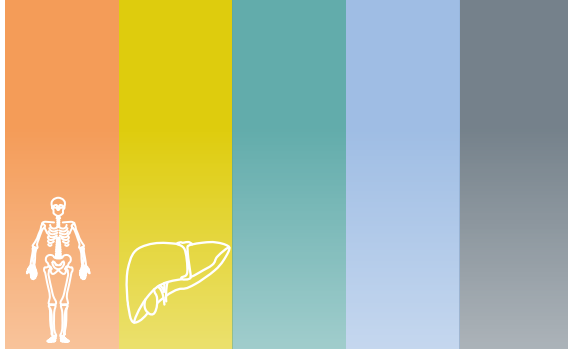
Carsten Spidel
Environmental Verifier

Dipl.-Phys. Reinhard Mirz
Environmental Verifier
Organisation, DEY-0279

Intechnica Cert GmbH Umweltgutachterorganisation, Ostendstraße 181, 90482 Nürnberg

Environmental protection matters

HUMAN sincerely commits to the use of renewable energies and to environmental protection. Hence, an environmental management system according to international standard DIN EN ISO 14001 and European standard EMAS (certificate on the homepage) has been implemented in 2015 and maintained since then.



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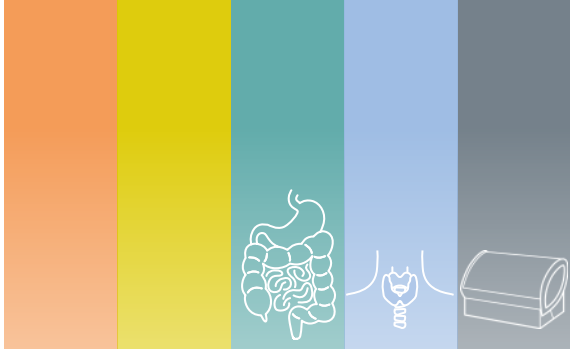
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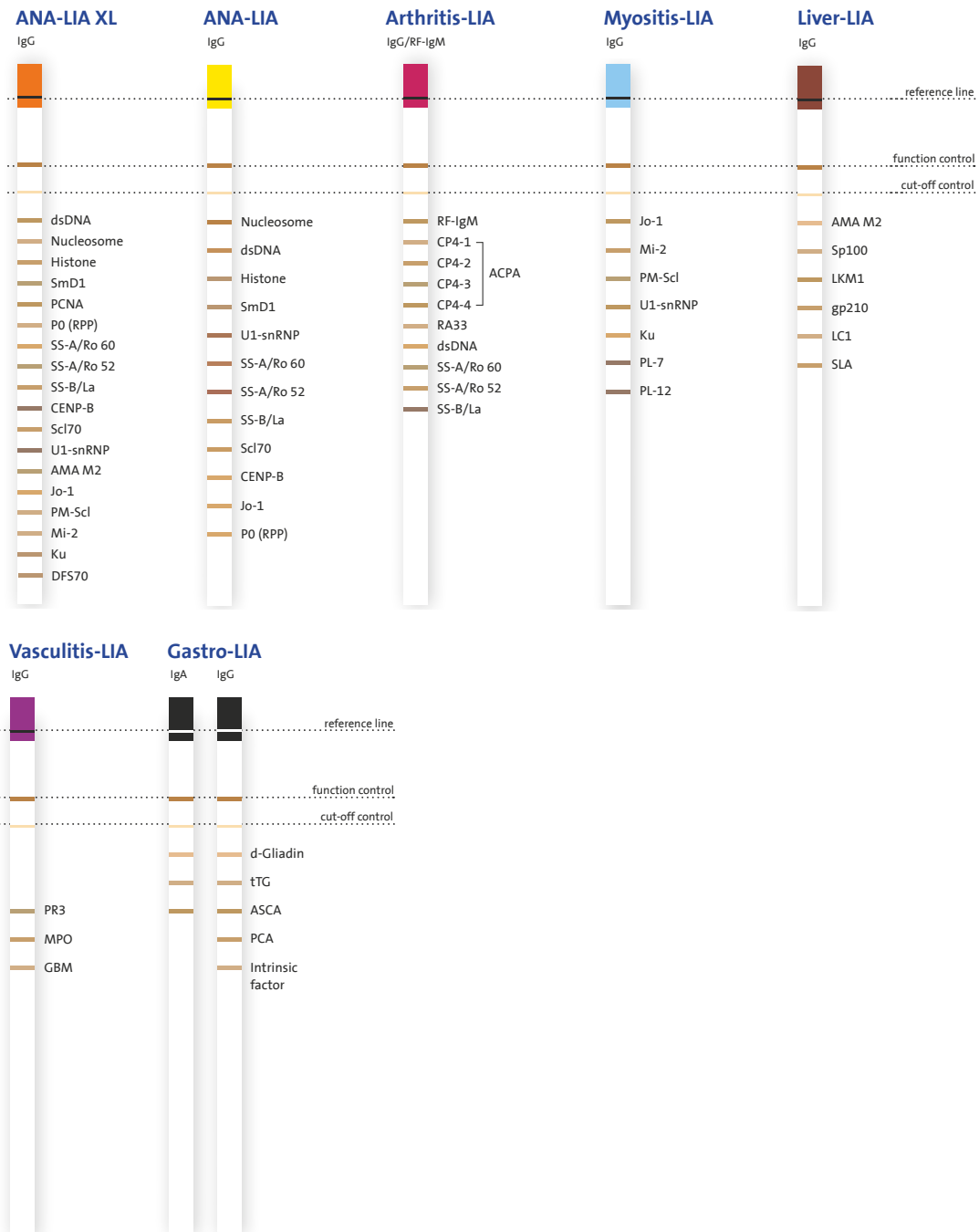
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LIA Technology

Autoimmune diseases are characterized by autoantibody patterns found in patient sera. HUMAN's auto-immune line immuno assays (LIAs) are developed for rapid autoantibody profiling. LIAs are simple to use screening assays. By employing disease-specific antigens, up to 18 different autoantibodies can be differentiated with a single-shot assay. This state-of-the-art autoimmune diagnostic tool is produced by spotting antigens in lines on a simple nitrocellulose membrane utilizing the newest technologies available in the market, including HUMAN's patented epitope-preserving technology.

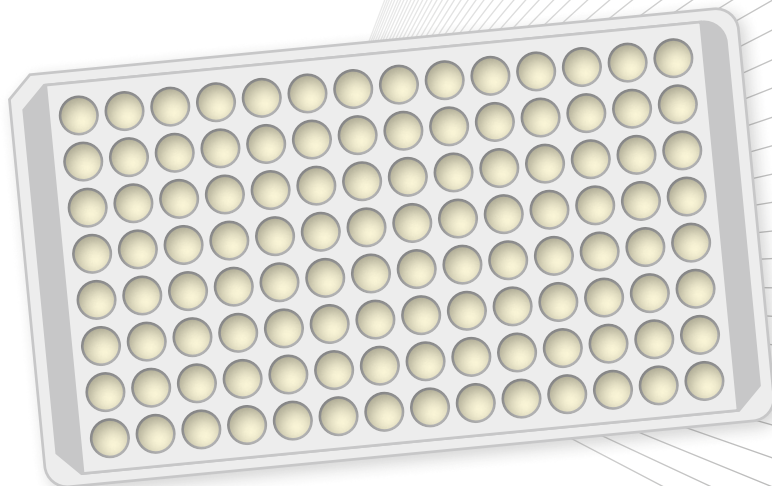
10

Bound autoantibodies are visualized by using specific HRP-conjugated secondary antibodies that specifically target human antibodies and a LIA specific substrate. Samples positive for autoantibodies can be easily detected by comparing the pattern of brown lines to the standardized line (cut-off) that is also spotted on the LIAs. LIAs are ideal autoimmune diagnostic tools for screening and differential diagnosis as well as monitoring autoimmune patients by identifying specific autoantibodies in one shot.



ELISA Technology

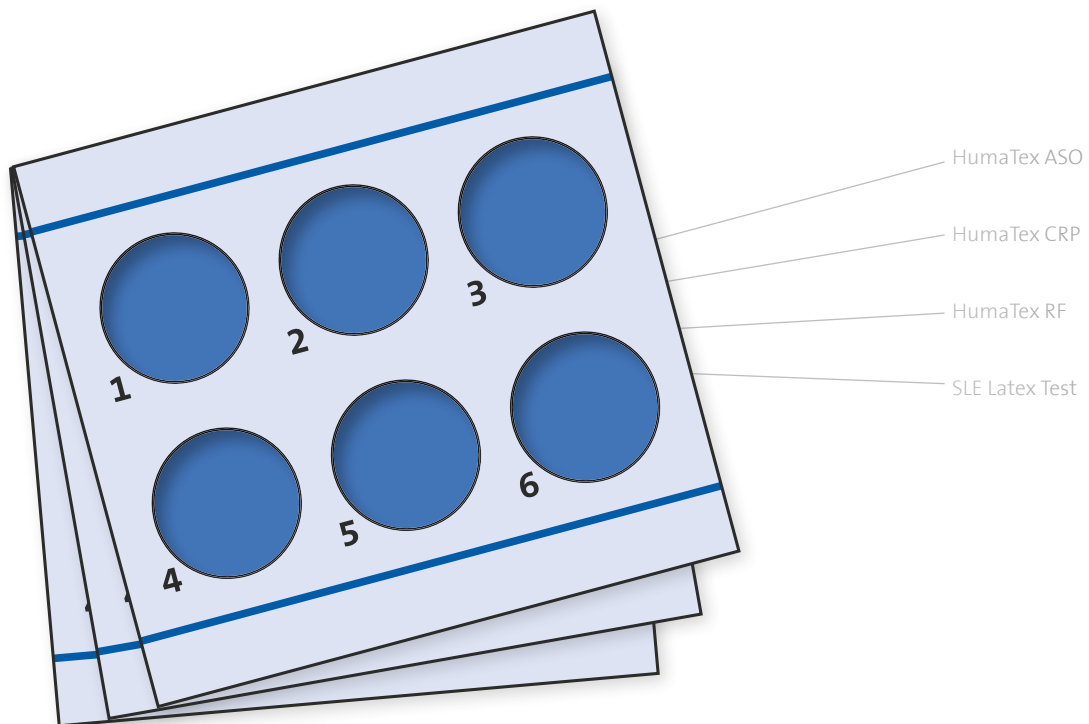
The HUMAN ELISAs for Autoimmune DX offer a unique solution for all sizes of laboratories from low to high throughput. The ELISA line consists of around 60 ELISAs (both qualitative and quantitative) for the differential diagnosis of autoimmune diseases. To provide the best solution for the requirements of each laboratory, HUMAN offers screening ELISAs for the detection of different subtypes (IgG, IgM, IgA) in one assay and single-parameter ELISAs for separate autoantigens. The quantitative ELISAs are ideally suited for the monitoring of disease progression. All ELISAs are optimized for automation and most are validated for use with HUMAN's automated ELISA instruments: Elisis Uno, Elisis Duo and Elisis Quattro. Handling is as simple as can be thanks to ready-to-use reagents, breakable microtiter wells and reagents largely interchangeable between different assays and lots. The incubation conditions are the same for almost all assays.



AMA M2
ANA
Annexin V
beta₂-glycoprotein 1
C1q
C1q-CIC
C3d-CIC
Cardiolipin
CCP
CENP-B
CIC
d-Gliadin
dsDNA
ENA
GBM
Histone
Jo-1
LKM-1
LPS
MPO
Nucleosome
oxLDL
Phosphatidic acid
Phosphatidylethanolamine
Phosphatidylinositol
Phosphatidylserine
PR3
Prothrombin
RA33
RF
Salmonella
Scl70
SmD1
SS-A/Ro 52
SS-A/Ro 60
SS-B/La
T3
T4
Thyroglobulin
Tissue transglutaminase
TPO
TSH-receptor
U1-snRNP

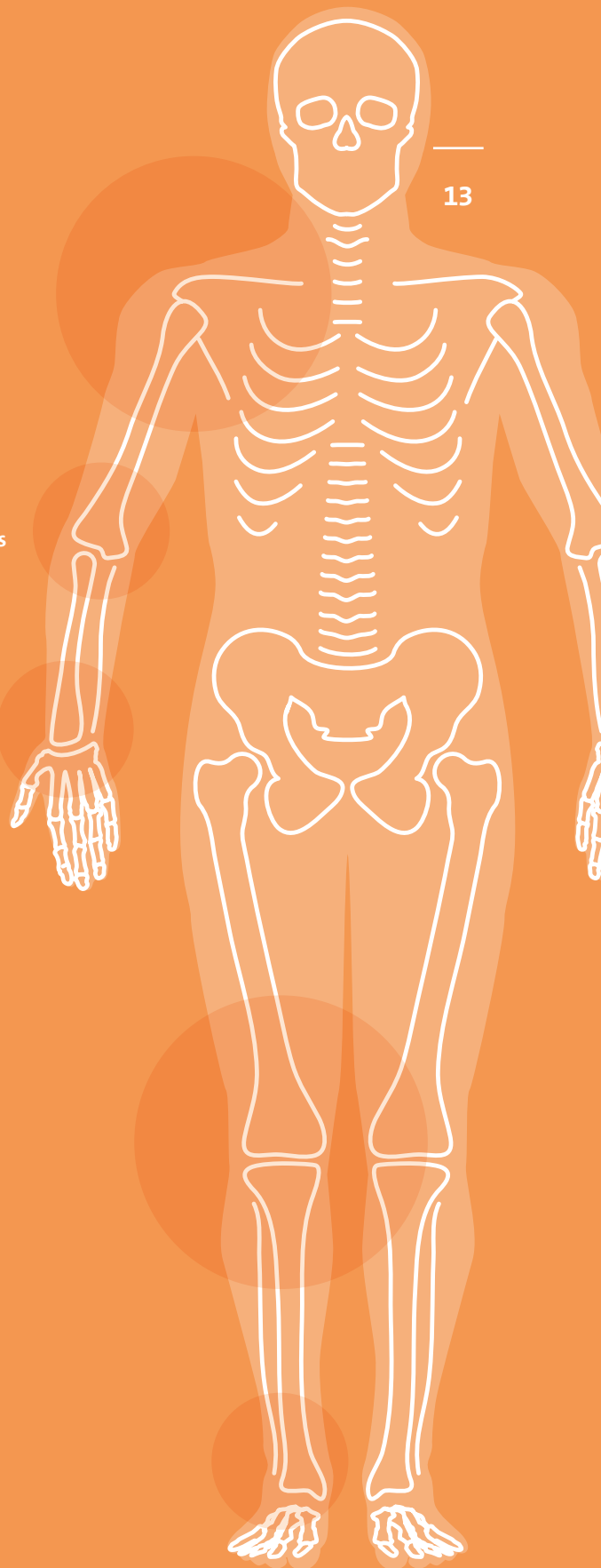
Rapid Screening Technology

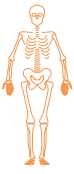
HUMAN's autoimmune rapid screening tests use latex beads coated with disease relevant and specific antigens. In the presence of autoantibodies in patient serum, the latex beads agglutinate and provide results in less than 2 minutes. Rapid tests for screening are ideal for identifying potential autoimmune patients with rheumatic diseases quickly and easily.



Rheumatology

The field of rheumatology covers all systemic autoimmune rheumatic diseases (SARD) that target multiple tissues and/or organs, causing inflammation that can result in rashes, pain, discomfort and even death. The major targets of SARDs are connective tissue, joints, muscles and blood vessels. After a first screen for antinuclear antibodies, ANA-LIA, ANA-LIA XL and quantitative ELISAs provide a basis to identify the specific SARD.





Connective Tissue Diseases

Clinical Characteristics

Mixed Connective Tissue Disease (MCTD)

Mixed connective tissue disease with clinical manifestations of a combination of SLE, scleroderma and polymyositis.

Symptoms:

- Swelling of hands and fingers
- Raynaud's phenomenon
- Specific symptoms of SLE, scleroderma and polymyositis

Sjögren's Syndrome (SjS)

Chronic inflammatory disease of the exocrine glands.

Symptoms:

- Dry eye syndrome
- Dry mouth

Myositis

Systemic inflammation of the muscles (polymyositis, PM) or both skin and muscles (dermatomyositis, DM).

Symptoms:

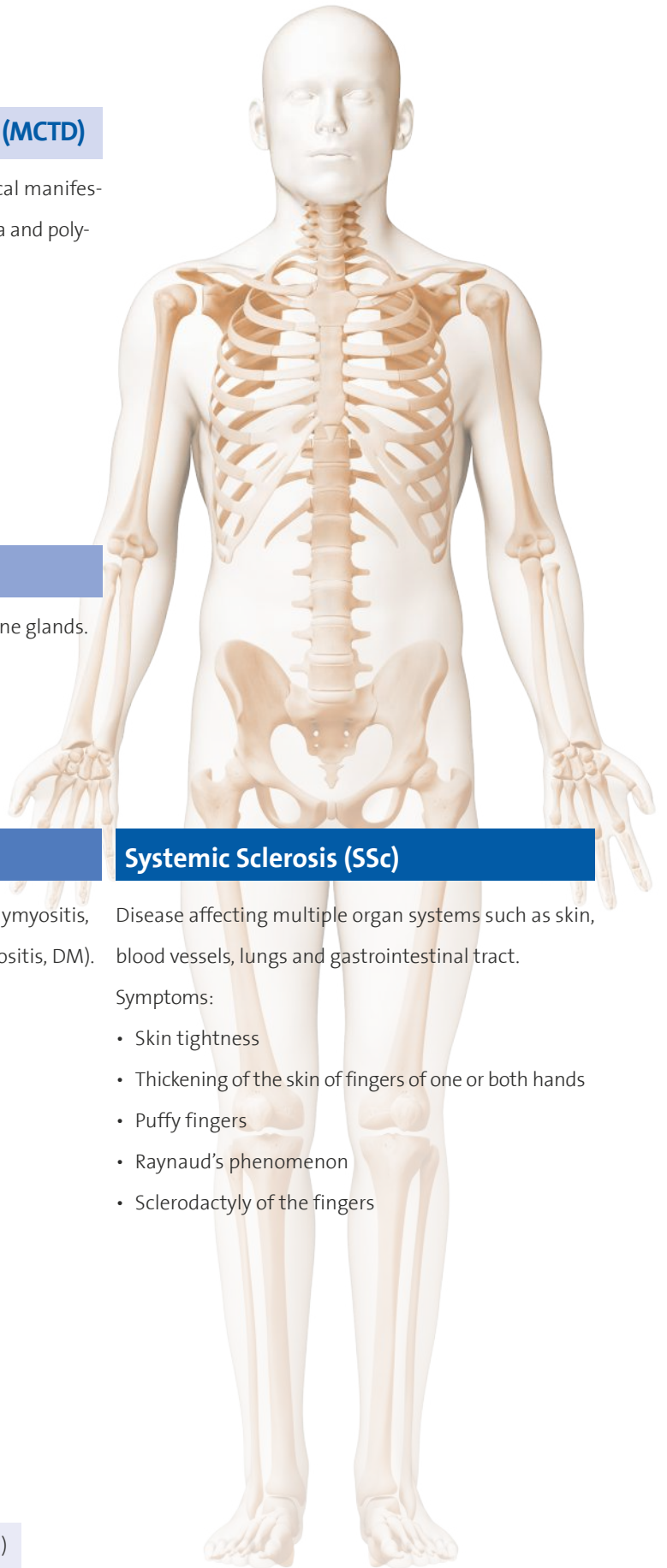
- Muscle weakness
- Muscle pain
- Skin lesions

Systemic Sclerosis (SSc)

Disease affecting multiple organ systems such as skin, blood vessels, lungs and gastrointestinal tract.

Symptoms:


- Skin tightness
- Thickening of the skin of fingers of one or both hands
- Puffy fingers
- Raynaud's phenomenon
- Sclerodactyly of the fingers

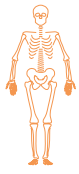


Line Immunoassays Solutions

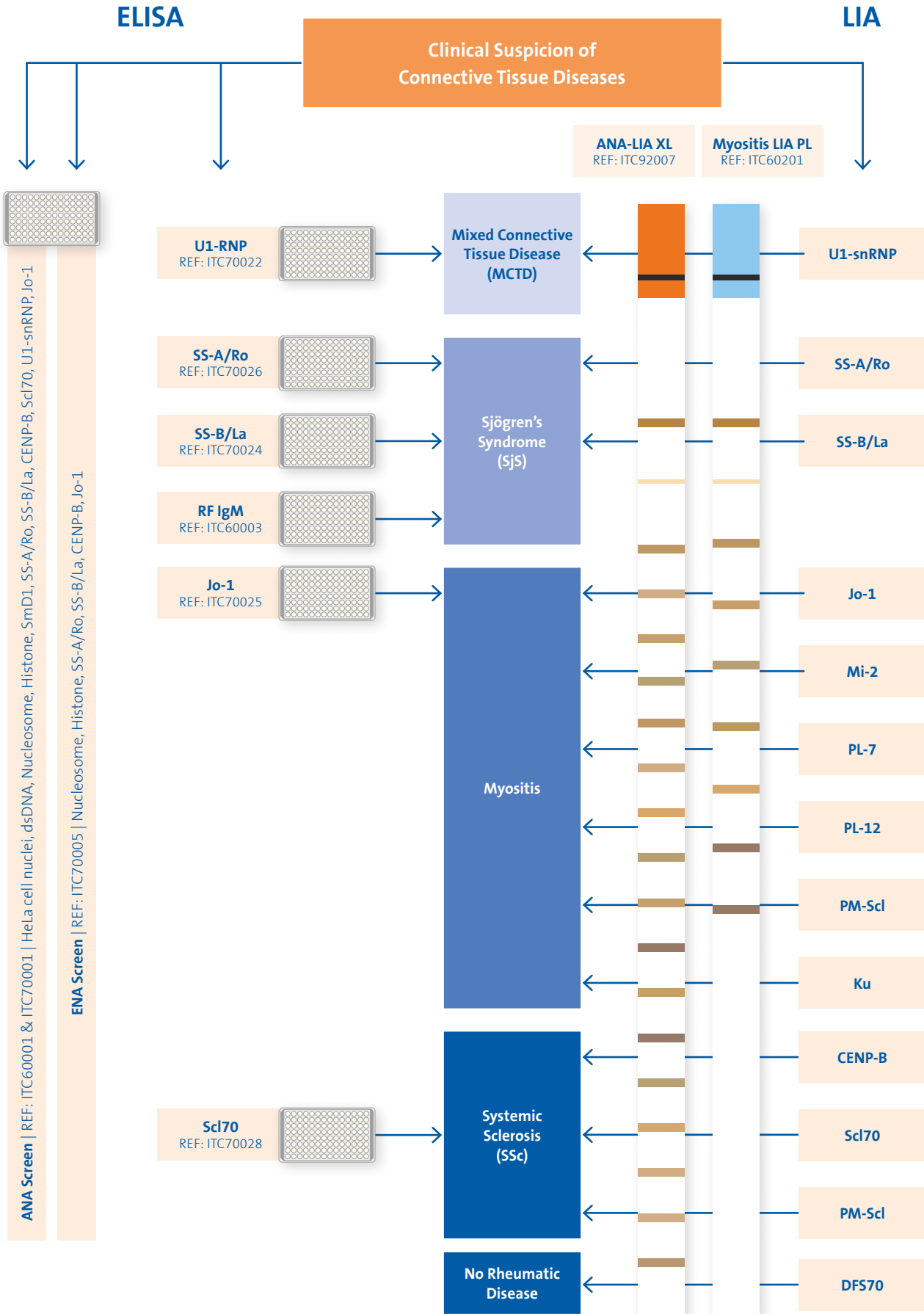


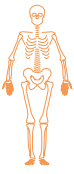
ANA-LIA XL

 Systemic Lupus Erythematosus (SLE) see page 18



Diagnostic Options at a Glance





Connective Tissue Diseases

LIA

Rheumatology

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REF	Format	Unit/Size	Antigen	No. of Antigens	Calibration	Color Coding
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ANA-LIA XL

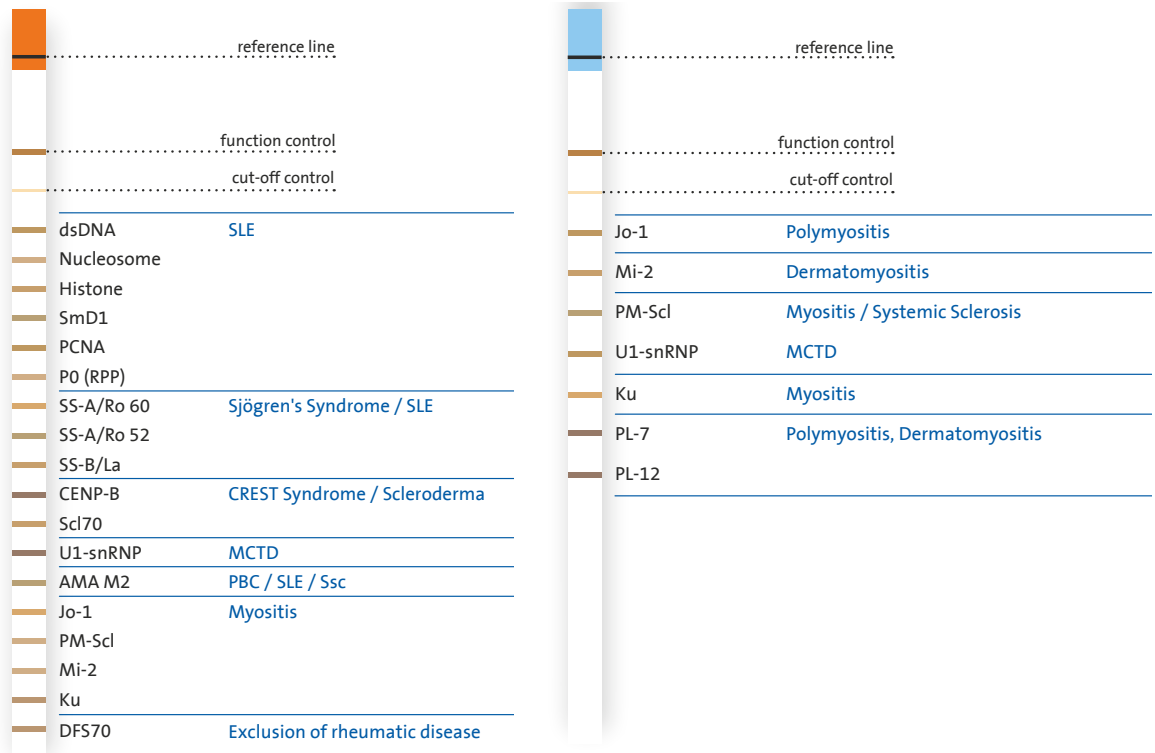
Determination of anti-nuclear antibodies

ITC92007	IgG	24 tests	dsDNA, Nucleosome, Histone, SmD1, PCNA, P0, SS-A/Ro 60, SS-A/Ro 52, SS-B/La, CENP-B, Scl70, U1-snRNP, AMA M2, Jo-1, PM-Scl100, Mi-2 and Ku 70/80, DFS70	18	Qualitative internal function and cut-off control	Orange
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Myositis-LIA PL

Determination of myositis antibodies

ITC60201	IgG	24 tests	Jo-1, Mi-2, PM-Scl100, U1-snRNP, Ku 70/80, PL-7, PL-12	7	Qualitative internal function and cut-off control	Blue
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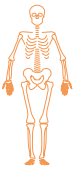
Human Autoimmune DX Catalog

Human



ELISA

REF	Format	Unit/Size	Antigen	Calibration	Cut-off
ANA SCREEN					
Determination of nuclear antigens					
ITC60001	IgG/IgA/ IgM	96 tests	HeLa cell nuclei, dsDNA, Nucleosome, Histone, SmD1, SS-A/Ro, SS-B/La, CENP-B, Scl70, U1-snRNP, Jo-1	Quantitative 31.25/62.5/125/250/ 500 U/ml	40 U/ml
ANA SCREEN (CUT-OFF)					
Determination of antibodies to nuclear antigens					
ITC70001	IgG/IgA/ IgM	96 tests	HeLa cell nuclei, dsDNA, Nucleosome, Histone, SmD1, SS-A/Ro, SS-B/La, CENP-B, Scl70, U1-snRNP, Jo-1	Qualitative	cut-off calibrator
ENA SCREEN (cut-off)					
Determination of antibodies to extractable nuclear antigens					
ITC70005	IgG	96 tests	Nucleosome, Histone, SS-A/Ro, SS-B/La, CENP-B, Jo-1	Qualitative	cut-off calibrator
Jo-1-ANTIBODIES					
Determination of antibodies to Jo-1					
ITC70025	IgG	96 tests	Jo-1	Quantitative / Qualitative 12.5/25/50/100/200 U/ml	25 U/ml
SS-A/Ro-ANTIBODIES					
Determination of antibodies to SS-A/Ro					
ITC70026	IgG	96 tests	SS-A/Ro 60, SS-A/Ro 52	Quantitative / Qualitative 12.5/25/50/100/200 U/ml	25 U/ml
SS-B/La-ANTIBODIES					
Determination of antibodies to SS-B/La					
ITC70024	IgG	96 tests	SS-B/La	Quantitative / Qualitative 12.5/25/50/100/200 U/ml	25 U/ml
Scl70-ANTIBODIES					
Determination of antibodies to Scl70					
ITC70028	IgG	96 tests	Scl70	Quantitative / Qualitative 12.5/25/50/100/200 U/ml	25 U/ml
U1-snRNP-ANTIBODIES					
Determination of antibodies to U1-snRNP					
ITC70022	IgG	96 tests	U1-snRNP	Quantitative / Qualitative 12.5/25/50/100/200 U/ml	25 U/ml



Systemic Lupus Erythematosus

Clinical Characteristics

Systemic Lupus Erythematosus (SLE)

Chronic systemic autoimmune disease affecting multiple organs.

Symptoms:

- Malar rash
- Discoid rash
- Photosensitivity
- Oral ulcers
- Nonerosive arthritis
- Serositis
- Nephritis
- Neurological disorders
- Hematologic disorders



SLE Subsets

Subacute Cutaneous Lupus Erythematosus (SCLE)

- Chronic remitting dermatitis characterized by severe photosensitivity.

Secondary SLE Syndrome (sSLE)

- *Secondary Sjögren's syndrome syndrome in SLE*
SLE in combination with Sjögren's syndrome.
- *Antiphospholipid syndrome in SLE (secondary APS)*
SLE in combination with antiphospholipid syndrome.

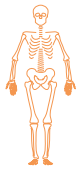
Drug Induced Lupus (DIL)

- DIL can arise months to years after exposure to drugs prescribed to treat various medical conditions. The most common drugs that cause DIL are hydralazine, procainamide, quinidine, isoniazid, diltiazem, and minocycline.

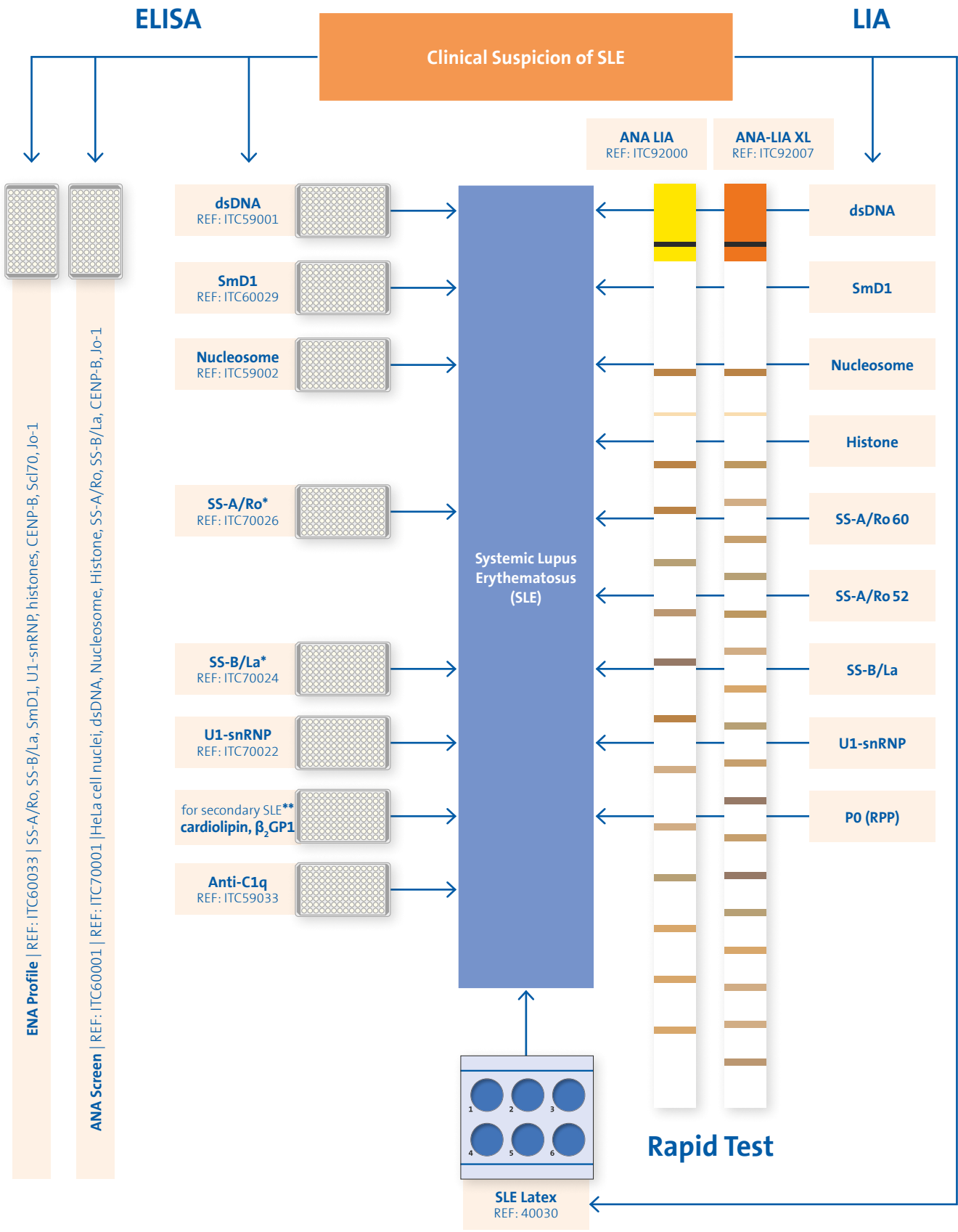
Neonatal Lupus Syndrome

- *Neonatal Lupus Erythematosus (NLE)*
Erythema of skin regions exposed to light within a few days of birth caused by maternally transmitted autoantibodies.
- *Congenital Heart Block (CHB)*
Bradycardia and severe cardiac arrhythmias between the 16th and 24th week of gestation due to autoantibody mediated inflammation of the heart conduction system.





Diagnostic Options at a Glance

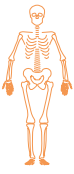


Rheumatology

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Human Autoimmune DX Catalog

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Systemic Lupus Erythematosus

LIA

Rheumatology

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REF	Format	Unit/Size	Antigen	No. of Antigens	Calibration	Color Coding
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ANA-LIA XL

Determination of anti-nuclear antibodies

ITC92007	IgG	24 tests	dsDNA, Nucleosome, Histone, SmD1, PCNA, PO, SS-A/Ro 60, SS-A/Ro 52, SS-B/La, CENP-B, Scl70, U1-snRNP, AMA M2, Jo-1, PMscl100, Mi-2 and Ku 70/80, DFS70	18	Qualitative internal function and cut-off control	Orange
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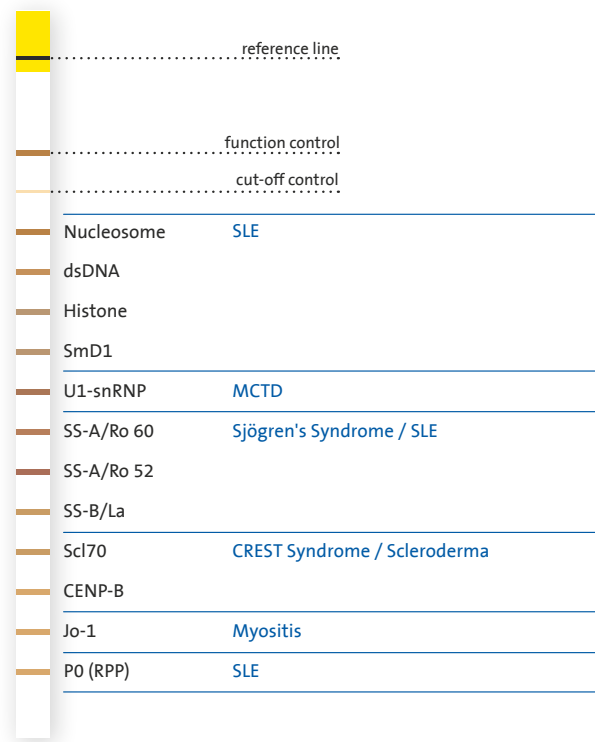
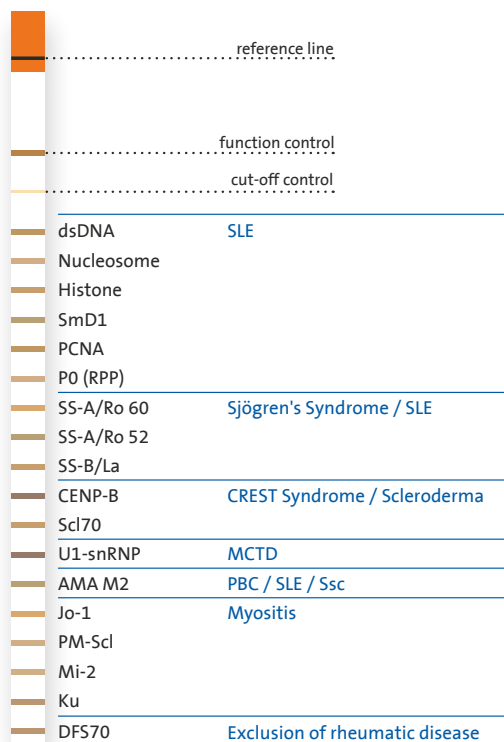
ANA-LIA

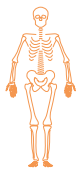
Determination of anti-nuclear antibodies

ITC92000	IgG	24 tests	Nucleosome, dsDNA, Histone, SmD1, U1-snRNP, SS-A/Ro 60, SS-A/Ro 52, SS-B/La, Scl70, CENP-B, Jo-1, RPP/PO and PO	12	Qualitative internal function and cut-off control	Yellow
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Autoimmune DX Catalog

Human



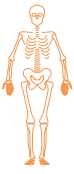


ELISA

REF	Format	Unit/Size	Antigen	Calibration	Cut-off
ENA-Profile Simultaneous determination of antibodies to extractable nuclear antigens					
ITC60033	IgG	96 tests	SS-A/Ro, SS-B/La, SmD1, U1-snRNP, Histone, CENP-B, Scl70, Jo-1	Qualitative cut-off control	cut-off calibrator
ANTI-C1q-ANTIBODIES Determination of autoantibodies to complement C1q					
ITC59033	IgG	96 tests	C1q	Quantitative 12.5/25/50/100/200 U/ml	20 U/ml
dsDNA-ANTIBODIES Determination of antibodies to double-stranded DNA					
ITC59001	IgG	96 tests	Double-stranded DNA	Quantitative 12.5/25/50/100/200 IU/ml	25 IU/ml
NUCLEOSOME-ANTIBODIES Determination of antibodies to nucleosomes					
ITC59002	IgG	96 tests	Nucleosomes	Quantitative 12.5/25/50/100/200 U/ml	25 U/ml
SmD1-ANTIBODIES IgG Determination of antibodies to SmD1					
ITC60029	IgG	96 tests	SmD1-peptide	Quantitative / Qualitative 12.5/25/50/100/200 U/ml	25 U/ml

Rapid Screening Tests

REF	Format	Unit/Size	Analyte	Calibration	Cut-off
SLE Latex Test Latex slide test for ANA antibodies					
40030	Complete kit	50 tests	deoxyribonucleoprotein (DNP)	Qualitative	
GLYCINE-NaCl BUFFER Buffer for sample dilution of latex slide tests					
40037	Buffer	100 ml			



Rheumatoid Arthritis and Juvenile Idiopathic Arthritis

Clinical Characteristics

Rheumatoid Arthritis (RA)

Systemic inflammatory disorder causing irreversible joint damage.

Symptoms:

- Morning stiffness
- Redness and swelling of joints
- Weakness
- Symmetric arthritis
- Arthritis of 3 or more joints
- Malaise (fatigue, weight loss, depression)

Juvenile Idiopathic Arthritis (JIA)

A group of joint inflammation diseases with an onset before the age of 16 in the absence of other articular diseases (see table “Differential Diagnosis”). JIA is classified into categories based on the number of joints involved and the presence of extra-articular symptoms.

Symptoms:

- Persistent or recurring arthritis of at least 6 weeks duration
- Fever
- Rash
- Psoriasis
- Enteritis



Differential Diagnosis of JIA

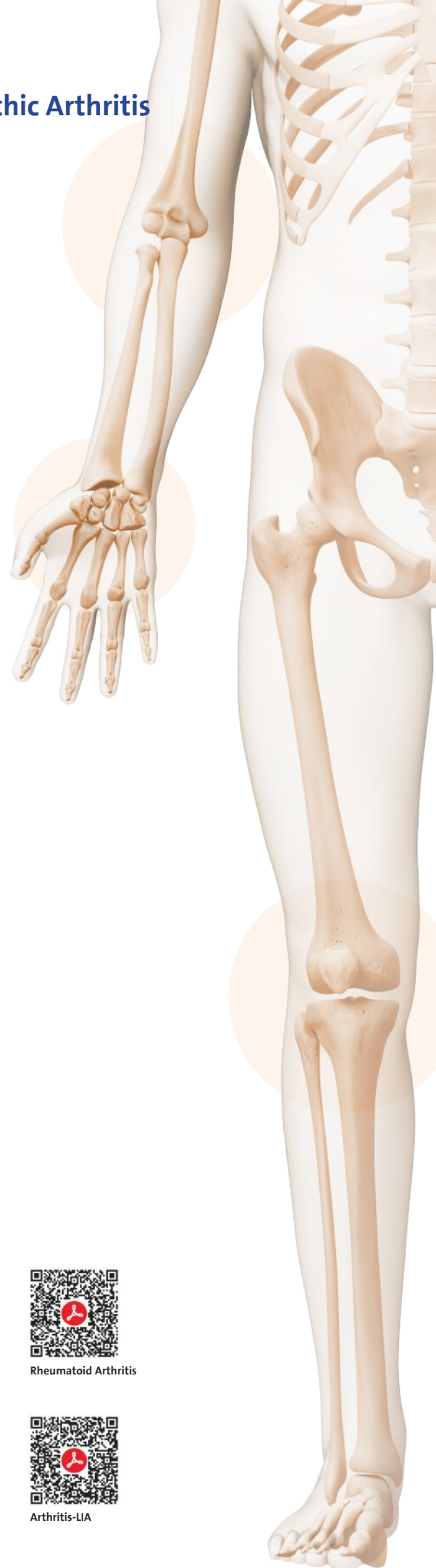
- | | |
|------------------------------|---------------------------|
| • Acute rheumatic fever | • Injuries |
| • Infections | • Foreign body |
| • Reactive arthritis | • Orthopedic diseases |
| • Connective tissue diseases | • Frostbite |
| • Immunodeficiency diseases | • Psychogenic arthralgias |
| • Hematologic diseases | • Uveitis |
| • Neoplasia | |



Rheumatoid Arthritis

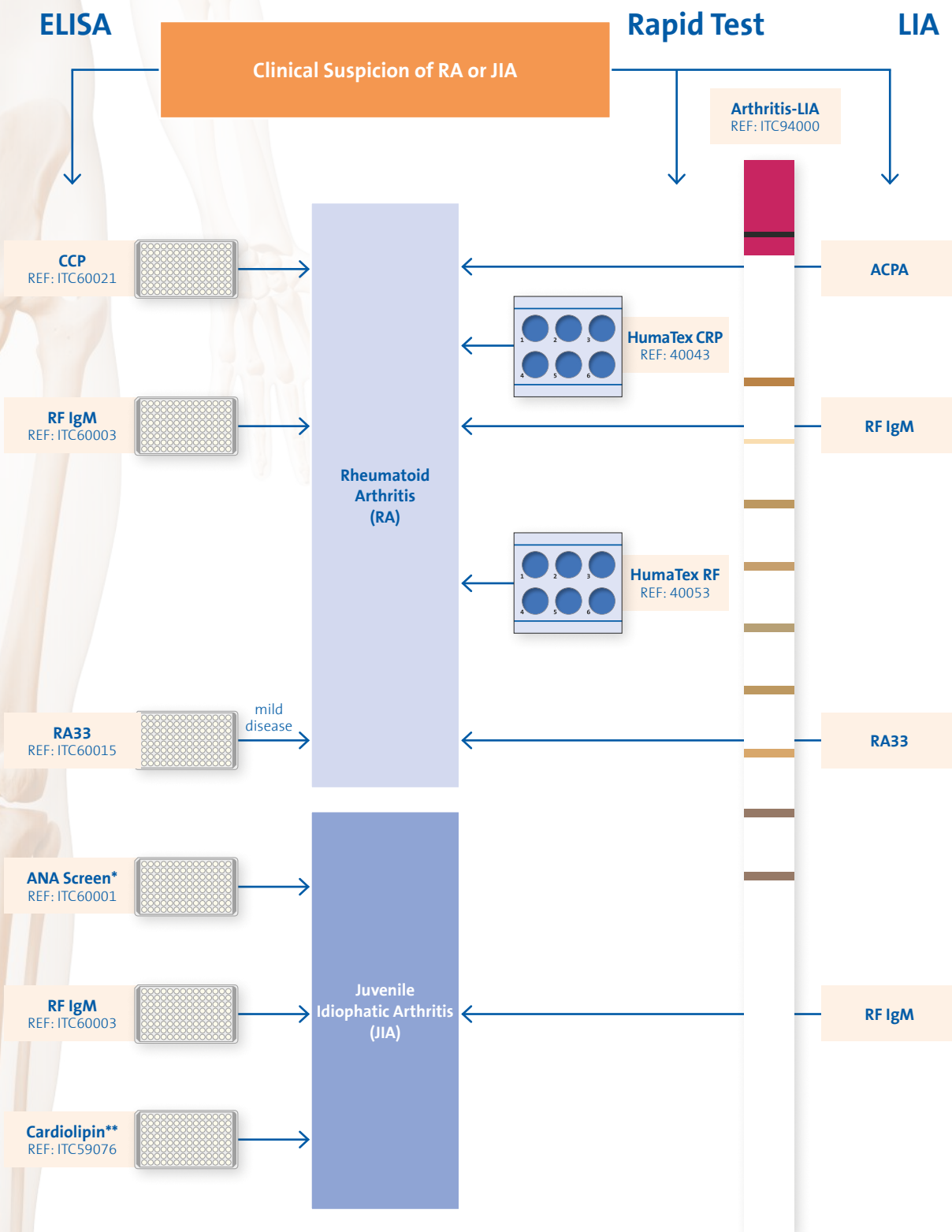


Arthritis-LIA



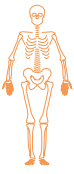


Diagnostic Options at a Glance



i In up to 53% of patients, low titers of anti-cardiolipin antibodies are detected without clinical features of anti-phospholipid syndrome. JIA patients with ANA are associated with chronic iridocyclitis (found in about 30% of JIA patients). Histone antibodies are detectable in 51% of JIA patients.

* See page 17, ** See page 32



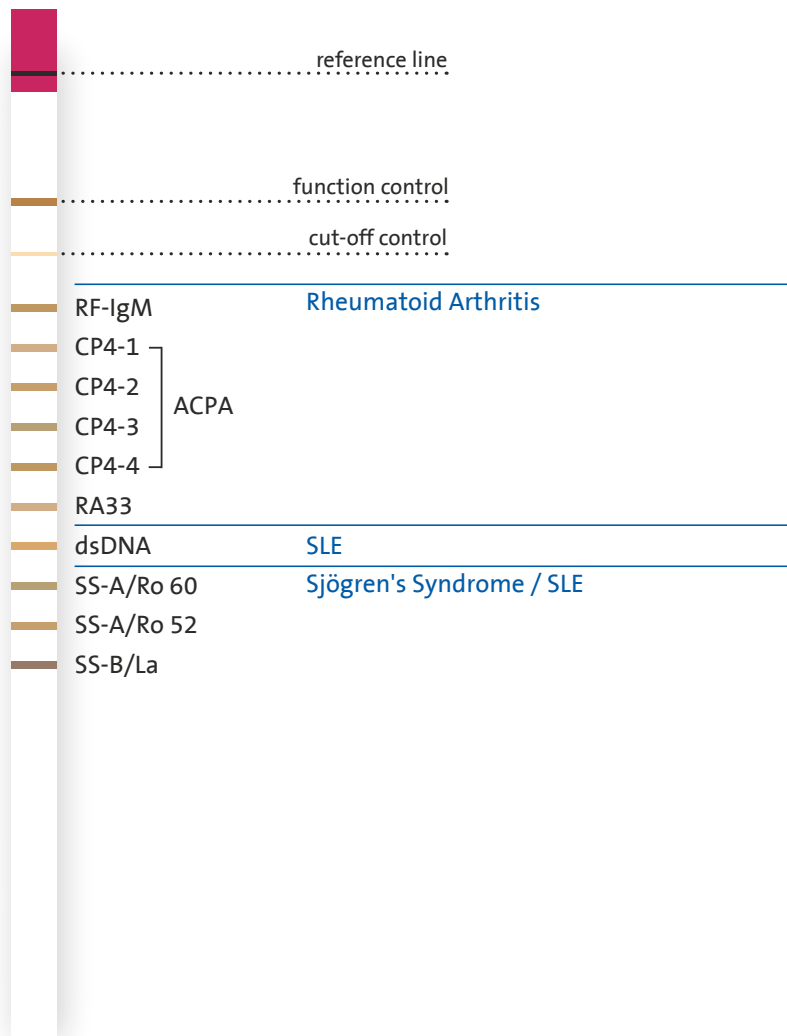
Rheumatoid Arthritis and Juvenile Idiopathic Arthritis

LIA

Rheumatology

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REF	Format	Unit/Size	Antigen	No. of Antigens	Calibration	Color Coding
Arthritis-LIA						
Determination of rheumatoid arthritis antibodies						
ITC94000	IgG / RF-IgM	24 tests	RF-IgM, ACPA (CP4), RA33, dsDNA, SS-A/Ro60, SS-A/ Ro52, SS-B/La	10	Qualitative internal function and cut-off control	Red





ELISA

REF	Format	Unit/Size	Antigen	Calibration	Cut-off
CCP-ANTIBODIES Determination of antibodies to cyclic citrullinated peptide					
ITC60021	IgG	96 tests	CCP2	Quantitative / Qualitative 25/50/200/800/1600 U/ml	25 U/ml
RA33-ANTIBODIES Determination of antibodies to RA33					
ITC60015	IgG	96 tests	RA33	Quantitative 12.5/25/50/100/200 U/ml	25 U/ml
RF IgM Determination of antibodies to rheumatoid factor					
ITC60003	IgG	96 tests	Rabbit IgG	Quantitative / Qualitative 12.5/25/50/100/200 IU/ml	15 IU/ml

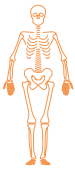
Rheumatology

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Rapid Screening Tests

REF	Format	Unit/Size	Antigen	Calibration	Cut-off
HumaTex CRP Latex slide test					
40043	Complete kit	100 tests	CRP antibodies	Qualitative	6 mg/l Serum
40040	Latex reagent	100 tests			
HumaTex RF Latex slide test					
40053	Complete kit	100 tests	RF antibodies	Qualitative	12 IU/l Serum
40050	Latex reagent	100 tests			
GLYCINE-NaCl BUFFER Buffer for sample dilution of latex slide tests					
40037	Buffer	100 ml			

Human Autoimmune DX Catalog



Vasculitis

Clinical Characteristics

Eosinophile Granulomatosis with Polyangiitis (EGPA) [Churg-Strauss Syndrome]

Vasculitis of glomerular and pulmonary capillaries with multi-organ involvement: lungs, skin, kidneys, nerves.

Symptoms:

- Asthma
- Nasal polyps
- Allergic rhinitis

Microscopic Polyangiitis (MPA)

Necrotizing immune vasculitis of small vessels, capillaries, venules, arterioles with multi-organ involvement: lungs, skin, kidneys, nerves.

Symptoms:

- Skin lesions
- Inflammation of the kidney (glomerulonephritis)
- Blood and protein loss, shortness of breath, swelling of the legs
- Numbness
- Tingling
- Alveolar hemorrhage
- Night sweat
- Weight loss
- Fever
- Fatigue
- Malaise

Granulomatosis with Polyangiitis (GPA) [Wegener's Granulomatosis]

Necrotizing vasculitis of small to medium-size vessels: capillaries, venules, arterioles and arteries.

Granulomatous inflammation involving multiple organs: e.g. lungs, eyes, skin, kidneys, joints, nerves.

Symptoms:

- Chronic hemorrhagic rhinitis
- Sinusitis
- Otitis media
- Symptoms in accordance with organ involvement
- Night sweats
- Weight loss
- Fatigue
- Fever

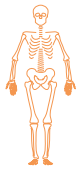
Goodpasture's Syndrome – anti-GBM Disease

Chronic autoimmune glomerulonephritis caused by anti GBM (glomerular basement membrane) antibodies.

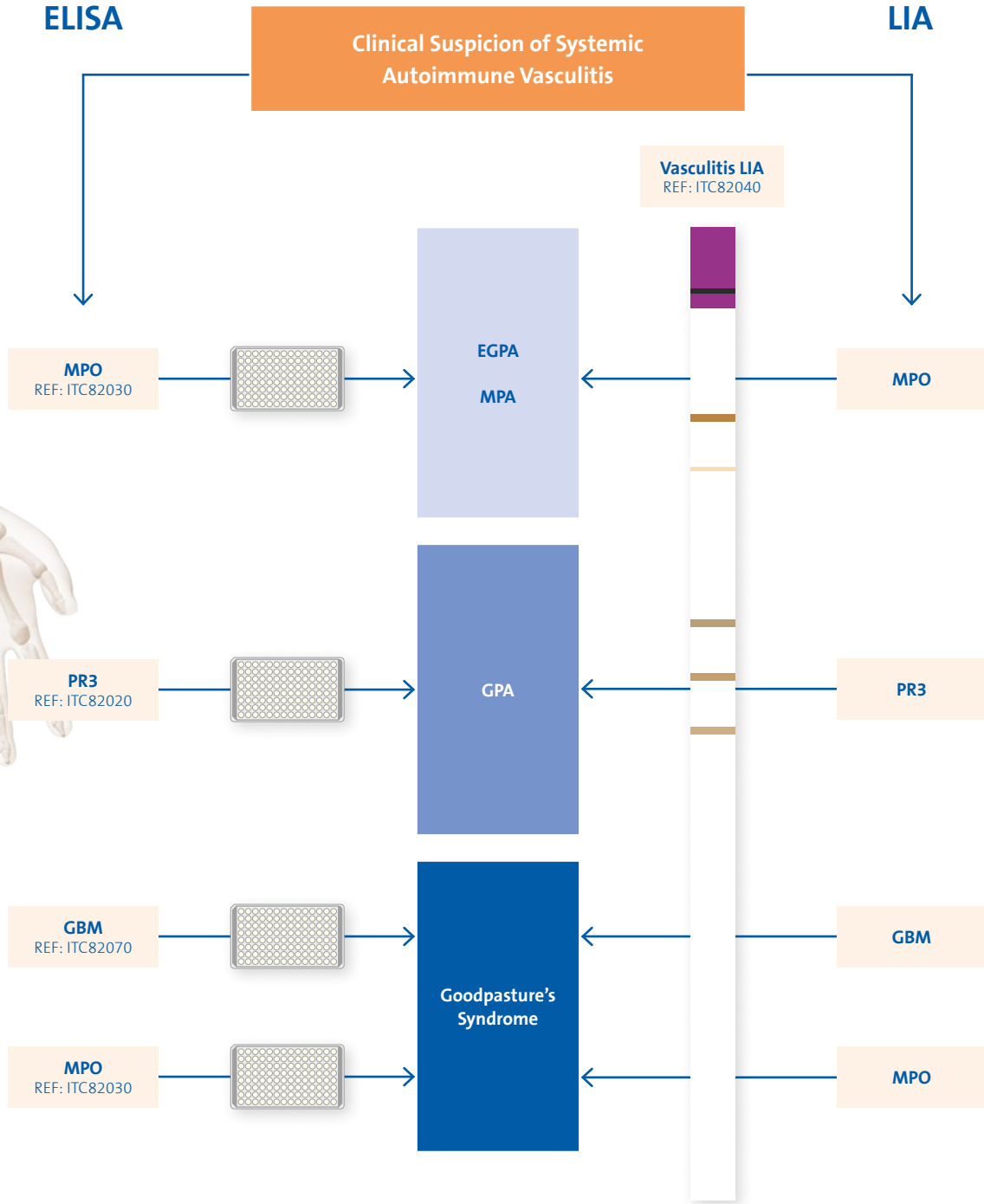
Symptoms:

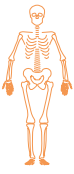
- Rapidly progressive glomerulonephritis
- Pulmonary hemorrhage
- Alveolitis
- Kidney failure





Diagnostic Options at a Glance





Vasculitis

LIA

Rheumatology

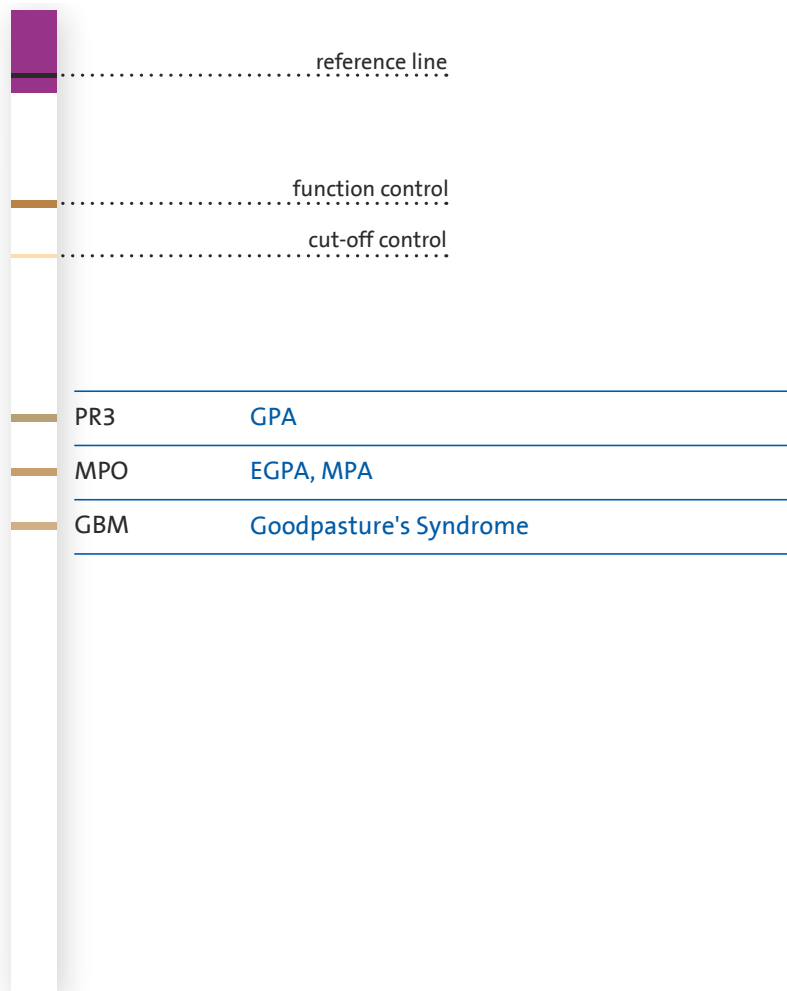
28

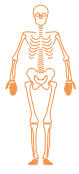
REF	Format	Unit/Size	Antigen	No. of Antigens	Calibration	Color Coding
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Vasculitis-LIA

Determination of vasculitis antibodies

ITC82040	IgG	24 tests	PR3, MPO and GBM	3	Qualitative internal function and cut-off control	Purple
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ELISA

REF	Format	Unit/Size	Antigen	Calibration	Cut-off
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GBM-ANTIBODIES

Determination of antibodies to glomerular basement membrane

ITC82070	IgG	96 tests	GBM	Quantitative 2.5/7.4/22.2/66.7/200 U/ml	10 U/ml
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MPO-ANCA

Determination of antibodies to myeloperoxidase

ITC82030	IgG	96 tests	Myeloperoxidase	Quantitative 2.5/7.4/22.2/66.7/200 U/ml	10 U/ml
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PR3-ANCA

Determination of antibodies to proteinase 3

ITC82020	IgG	96 tests	Proteinase 3	Quantitative 2.5/7.4/22.2/66.7/200 U/ml	10 U/ml
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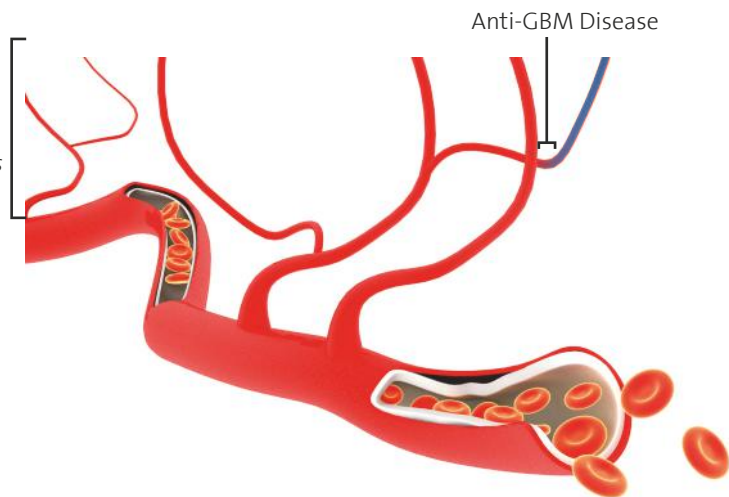
Rheumatology

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Blood vessels targeted in various types of vasculitis

ANA Associated Small Vessel Vasculitis

Microscopic Polyangiitis
Granulomatosis with Polyangiitis
(*Wegener's Granulomatosis*)
Eosinophile Granulomatosis with Polyangiitis
(*Churg-Strauss Syndrome*)





Antiphospholipid Syndrome

Clinical Characteristics

Antiphospholipid Syndrome (APS)

Venous and arterial thrombosis without inflammation of blood vessels.

Symptoms:

- One or more clinical episodes of arterial, venous or small vessel thrombosis
- One or more unexplained deaths of a morphologically normal fetus
- One or more premature births before week 34
- Three or more unexplained spontaneous abortions

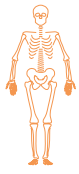
Catastrophic Antiphospholipid Syndrome

Rare form of APS with extensive vascular occlusions in multiple organ systems.

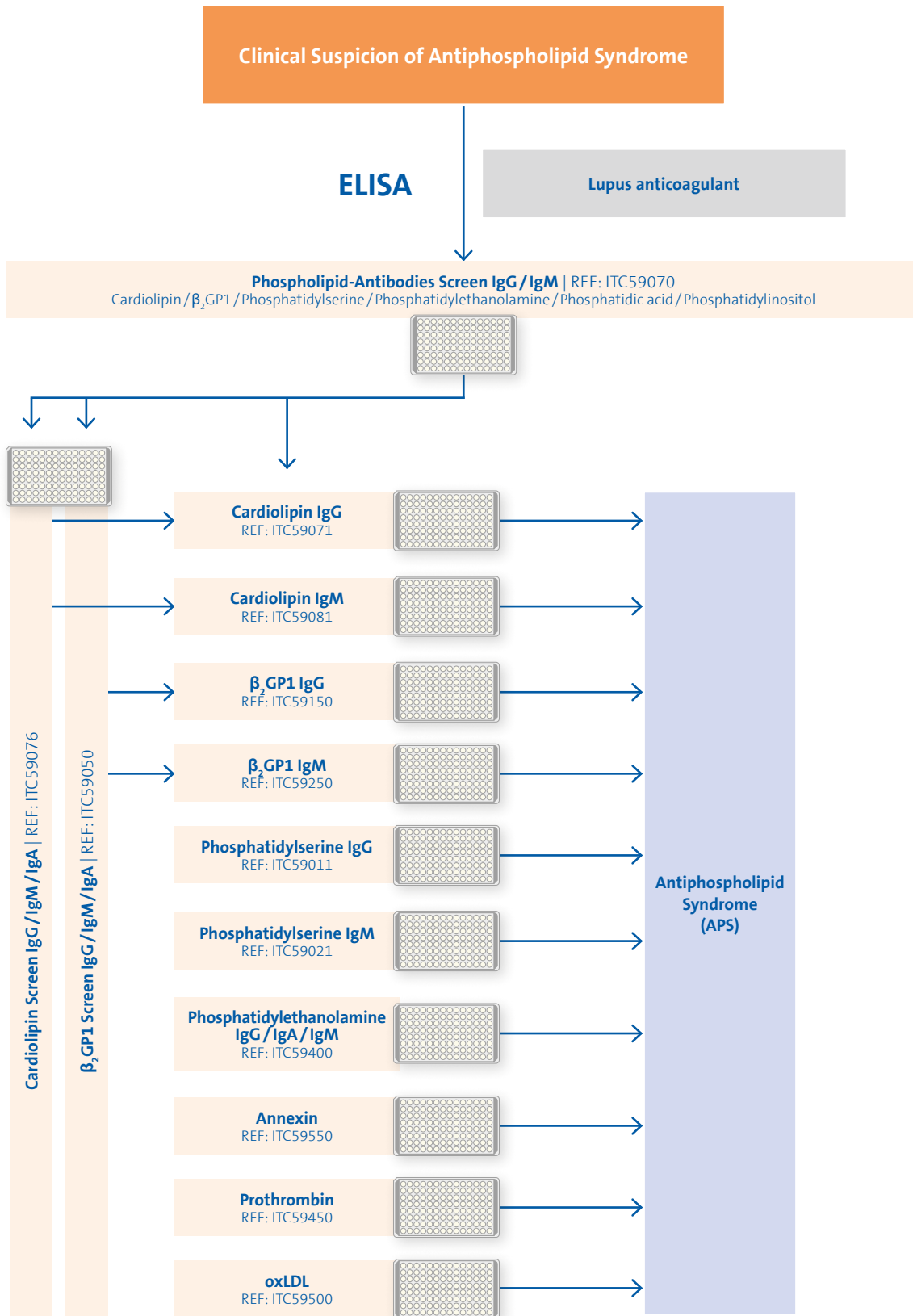
Symptoms:

- Renal failure
- Malignant arterial hypertension
- Severe CNS manifestations
- Acrocyanosis
- Gangrene

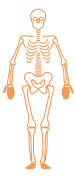




Diagnostic Options at a Glance



Repeat testing after 12 weeks



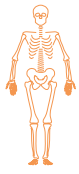
Antiphospholipid Syndrome

ELISA

Rheumatology

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REF	Format	Unit/Size	Antigen	Calibration	Cut-off
PHOSPHOLIPID-ANTIBODIES SCREEN					
Determination of antibodies to phospholipids					
ITC59070	IgG/IgM	96 tests	Cardiolipin, 2GP1, Phosphatidylserine, Phosphatidylethanolamine, Phosphatidic acid, Phosphatidylinositol	Quantitative 6/12/25/50/100 U/ml	15 – 25 U/ml
ANNEXIN V-ANTIBODIES SCREEN					
Determination of antibodies to annexin V					
ITC59550	IgG/IgA/IgM	96 tests	Annexin V	Quantitative 6.25/12.5/25/50/100 U/ml	25 U/ml
beta₂-GLYCOPROTEIN 1-ANTIBODIES SCREEN					
Determination of antibodies to beta ₂ -Glycoprotein 1					
ITC59050	IgG/IgA/IgM	96 tests	β ₂ GP1	Quantitative 3.12/6.25/12.5/25/50/100 U/ml	5 U/ml
beta₂-GLYCOPROTEIN 1-ANTIBODIES IgG					
Determination of antibodies to beta ₂ -Glycoprotein 1					
ITC59150	IgG	96 tests	β ₂ GP1	Quantitative 4.7/9.4/18.8/37.5/75 ng/ml 6.25/12.5/25/50/100 U/ml	7 ng/ml
beta₂-GLYCOPROTEIN 1-ANTIBODIES IgM					
Determination of antibodies to beta ₂ -Glycoprotein 1					
ITC59250	IgM	96 tests	β ₂ GP1	Quantitative 4.7/9.4/18.8/37.5/75 ng/ml 6.25/12.5/25/50/100 U/ml	7 ng/ml
CARDIOLIPIN-ANTIBODIES SCREEN					
Determination of antibodies to cardiolipin					
ITC59076	IgG/IgA/IgM	96 tests	Cardiolipin + cofactor β ₂ GP1	Quantitative 31.25/62.5/125/250/500 U/ml	45 U/ml
CARDIOLIPIN-ANTIBODIES COMBI					
Determination of antibodies to cardiolipin					
ITC59082	IgG/IgM	96 tests	Cardiolipin + cofactor β ₂ GP1	Quantitative 31.25/62.5/125/250/500 U/ml	IgG: 48 U/ml IgM: 44 U/ml



REF	Format	Unit/Size	Antigen	Calibration	Cut-off
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CARDIOLIPIN-ANTIBODIES IgG

Determination of antibodies to cardiolipin

ITC59071	IgG	96 tests	Cardiolipin + cofactor β_2 GP1	Quantitative 6.5/13/26/52/104 GPL/ml	48 U/ml
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CARDIOLIPIN-ANTIBODIES IgM

Determination of antibodies to cardiolipin

TC59081	IgM	96 tests	Cardiolipin + cofactor β_2 GP1	Quantitative 31.3/62.5/125/250/500 U/ml	44 U/ml
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oxLDL-ANTIBODIES Ig(GM)

Determination of antibodies to oxidized low-density lipoproteins

TC59500	IgG/IgM	96 tests	oxLDL	Quantitative 12.5/25/50/100/200 U/ml	30 U/ml
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PHOSPHATIDYLETHANOLAMINE-ANTIBODIES SCREEN

Determination of antibodies to phosphatidylethanolamine

ITC59400	IgG/IgA/ IgM	96 tests	Phosphatidylethanolamine	Quantitative 6.25/12.5/25/50/100 U/ml	15 U/ml
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PHOSPHATIDYLSERINE-ANTIBODIES SCREEN

Determination of antibodies to phosphatidylserine

ITC59027	IgG/IgA/ IgM	96 tests	Phosphatidylserine + cofactor β_2 GP1	Quantitative 6.25/12.5/25/50/100 U/ml	15 U/ml
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PHOSPHATIDYLSERINE-ANTIBODIES IgG

Determination of antibodies to phosphatidylserine

ITC59011	IgG	96 tests	Phosphatidylserine + cofactor β_2 GP1	Quantitative 6.25/12.5/25/50/100 U/ml	15 U/ml
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PHOSPHATIDYLSERINE-ANTIBODIES IgM

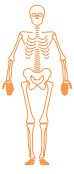
Determination of antibodies to phosphatidylserine

ITC59021	IgM	96 tests	Phosphatidylserine + cofactor β_2 GP1	Quantitative 6.25/12.5/25/50/100 U/ml	15 U/ml
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PROTHROMBIN-ANTIBODIES SCREEN

Determination of antibodies to prothrombin

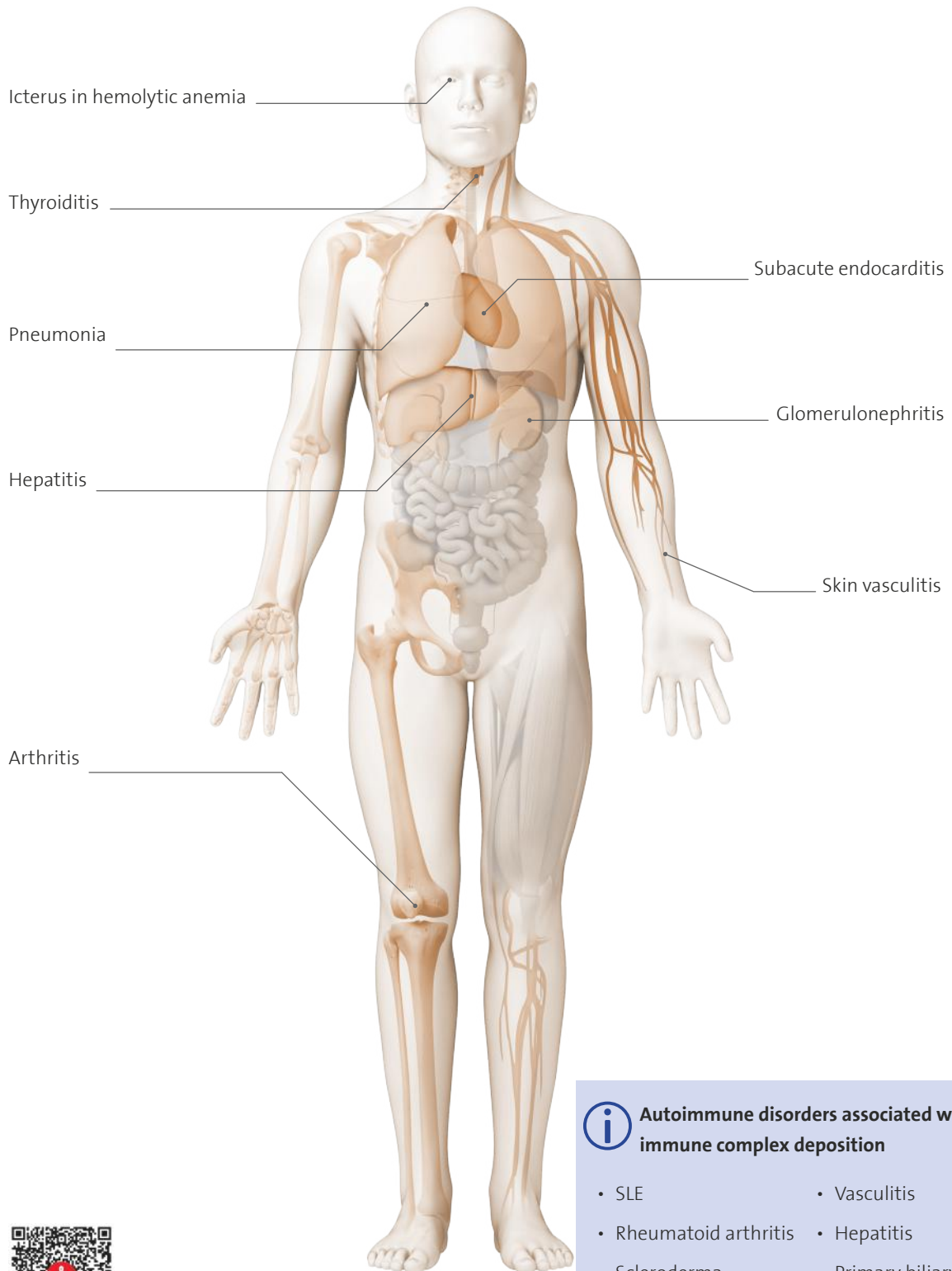
ITC59450	IgG/IgA/ IgM	96 tests	Prothrombin (factor II), phosphatidylserine	Quantitative 6.25/12.5/25/50/100 U/ml	30 U/ml
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Circulating Immune Complexes

Clinical Characteristics

Deposition of antigen-antibody complexes that play a central role in the pathogenesis of several autoimmune disorders.



i Autoimmune disorders associated with immune complex deposition

- SLE
- Rheumatoid arthritis
- Scleroderma
- Sjögren's syndrome
- Vasculitis
- Hepatitis
- Primary biliary cirroses





ELISA

REF	Format	Unit/Size	Antigen	Calibration	Cut-off
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CIC IgG

Quantitative determination of circulating immune complexes containing IgG by C1q binding

ITC59031	IgG	96 tests	C1q-CIC	Quantitative 25/50/100/400 µg/ml	55 µg/ml
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COMPLEMENT ACTIVITY

Quantitative determination of complement activity

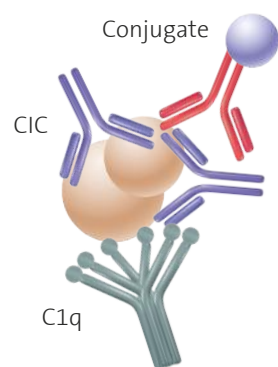
ITC59035	IgG	96 tests	IgM (complement activator)	Quantitative 25/50/100/200 U/ml	normal range: 40 – 200 U/ml
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C3d-CIC

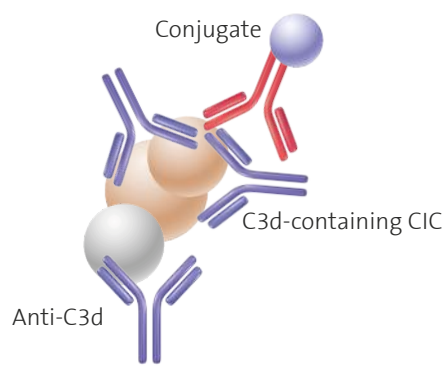
Quantitative determination of C3d containing circulating immune complexes of IgG

ITC59032	IgG	96 tests	Anti-C3d-CIC	Quantitative 25/50/100/200 µg/ml	40 µg/ml
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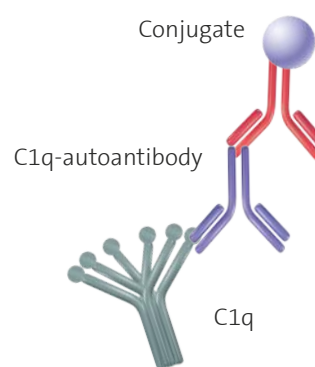
Different ELISA tests targeting complement factor



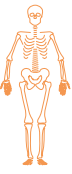
ITC59031: CIC-IgG ELISA



ITC59032: C3d-CIC-IgG ELISA



ITC59033: C1q-Antibodies ELISA



Reactive Arthritis

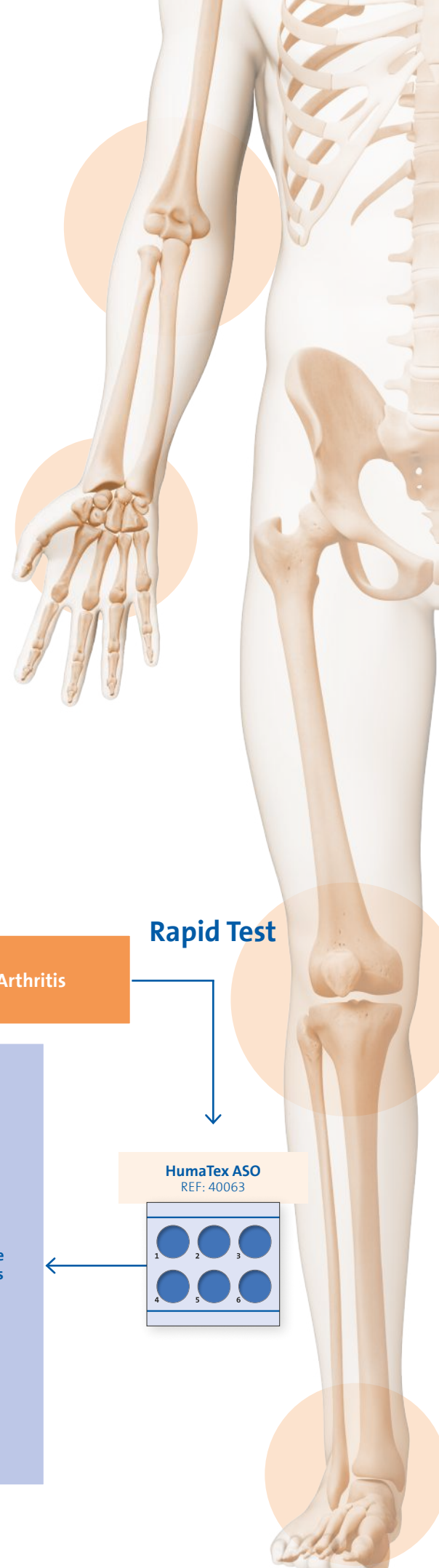
Clinical Characteristics

Reactive Arthritis

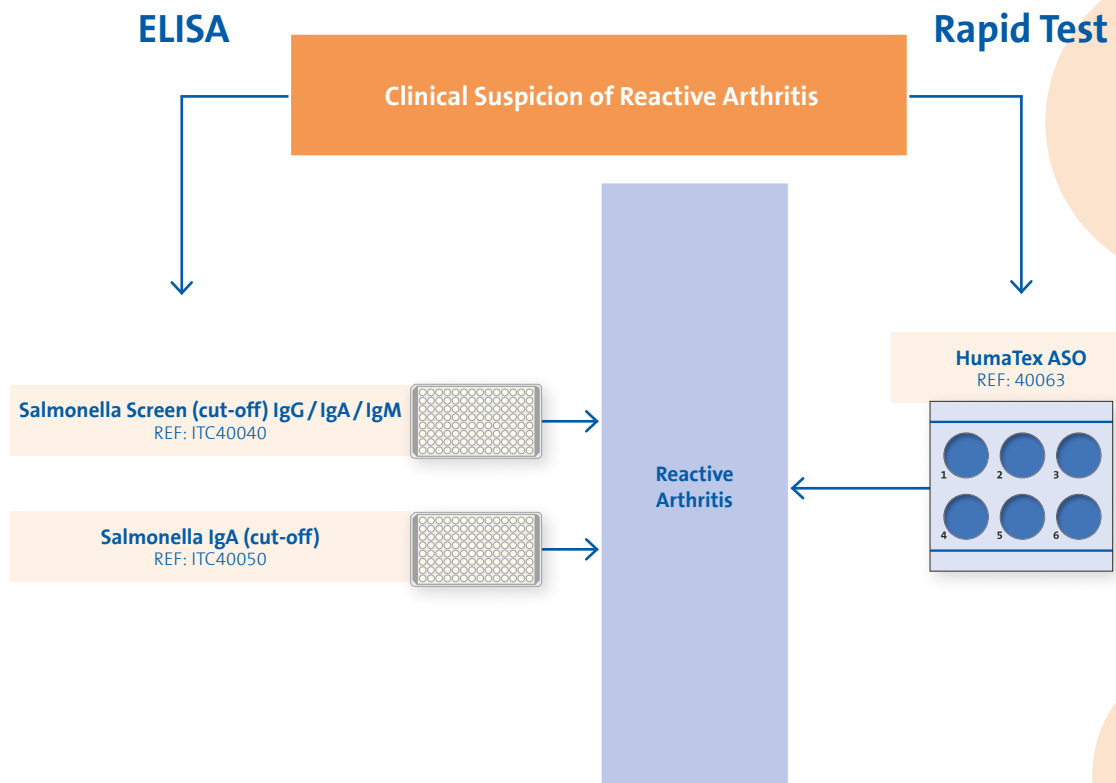
Autoinflammatory response triggered by bacterial infection.

Symptoms:

- Pain and swelling of certain joints, often the knees and/or ankles
- Swelling and pain at the heels
- Extensive swelling of the toes or fingers
- Persistent low back pain, that tends to be worse at night or in the morning
- Group of rheumatic joint diseases with an onset in childhood before the age of 16
- Malaise
- Fatigue
- Fever



Diagnostic Options at a Glance





ELISA

REF	Format	Unit/Size	Antigen	Calibration	Cut-off
SALMONELLA-ANTIBODIES SCREEN (cut-off)					
Determination of antibodies to Salmonella					
ITC40040	IgG/IgA/ IgM	96 tests	LPS of <i>S. typhimurium</i> and <i>S. enteritidis</i>	Qualitative	cut-off calibrator
SALMONELLA-ANTIBODIES IgA (cut-off)					
Determination of antibodies to Salmonella					
ITC40050	IgA	96 tests	LPS of <i>S. typhimurium</i> and <i>S. enteritidis</i>	Qualitative	cut-off calibrator

Rheumatology

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Rapid Screening Tests

REF	Format	Unit/Size	Antigen	Calibration	Cut-off
HumaTex ASO					
Latex slide test					
40063	Complete kit	100 tests	Streptolysin O	Qualitative	200 IU/l Serum
40060	Latex reagent	100 tests			
GLYCINE-NaCl BUFFER					
Glycine-NaCl Buffer for sample dilution of latex slide tests					
40037	Buffer	100 ml			

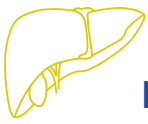


Bacteria that may cause reactive arthritis:

- Salmonella
- Shigella
- Chlamydia
- Yersinia
- Campylobacter
- Streptococcus



Anti-Salmonella

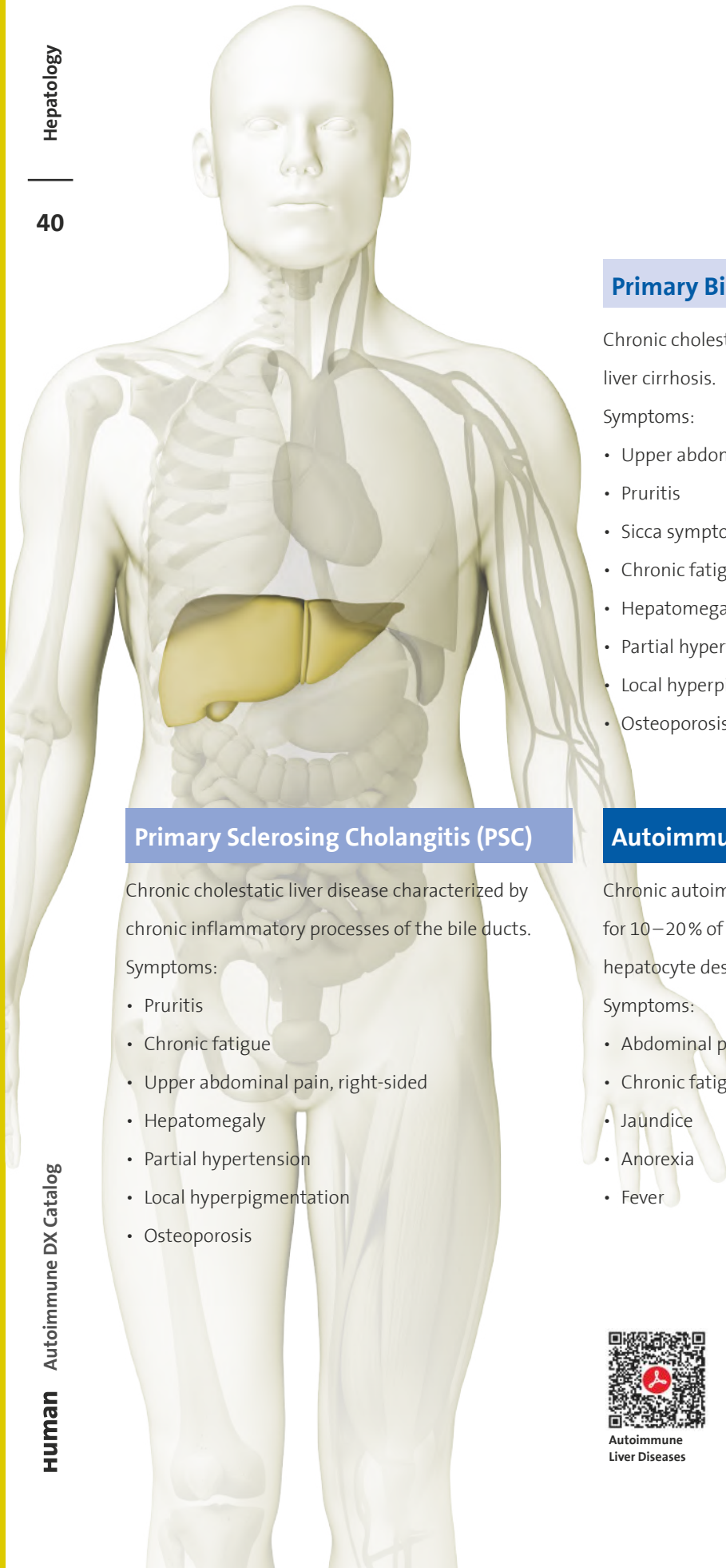


Hepatology

Clinical Characteristics

Hepatology

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Primary Biliary Cirrhosis (PBC)

Chronic cholestatic liver disease leading to liver cirrhosis.

Symptoms:

- Upper abdominal pain, right-sided
- Pruritis
- Sicca symptoms
- Chronic fatigue
- Hepatomegaly
- Partial hypertension
- Local hyperpigmentation
- Osteoporosis

Primary Sclerosing Cholangitis (PSC)

Chronic cholestatic liver disease characterized by chronic inflammatory processes of the bile ducts.

Symptoms:

- Pruritis
- Chronic fatigue
- Upper abdominal pain, right-sided
- Hepatomegaly
- Partial hypertension
- Local hyperpigmentation
- Osteoporosis

Autoimmune Hepatitis (AIH)

Chronic autoimmune hepatitis responsible for 10–20% of all chronic hepatitis cases with hepatocyte destruction and fibrosis.

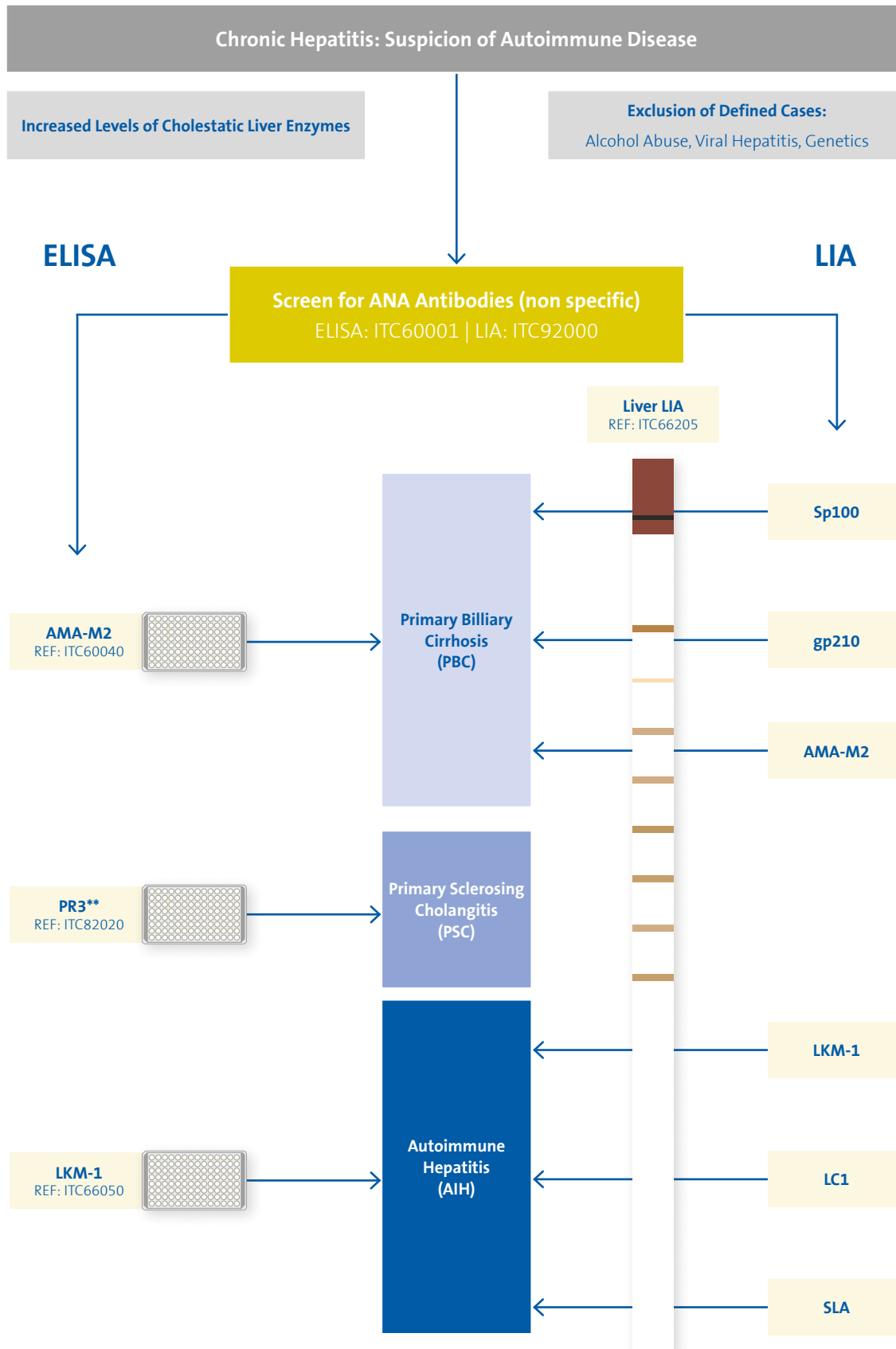
Symptoms:

- Abdominal pain, right-sided
- Chronic fatigue
- Jaundice
- Anorexia
- Fever



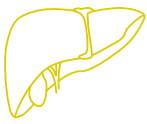


Diagnostic Options at a Glance



* See page 28

** See page 29



Hepatology

LIA

Hepatology

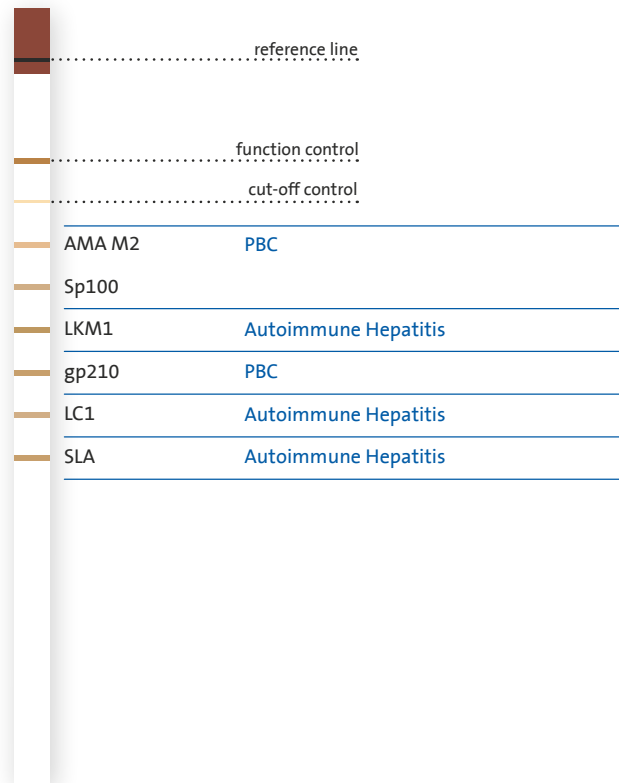
42

REF	Format	Unit/Size	Antigen	No. of Antigens	Calibration	Color Coding
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Liver-LIA

Determination of antibodies to autoimmune liver diseases

ITC66205	IgG	24 tests	AMA M2, Sp100, LKM-1, gp210, LC1, SLA	6	Qualitative internal function and cut-off control	Brown
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ELISA

REF	Format	Unit/Size	Antigen	Calibration	Cut-off
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AMA M2

Determination of antibodies to anti-mitochondrial antigen M2

ITC60040	IgG	96 tests	Mitochondrial antigen	Quantitative 2/8/31/125/500 U/ml	10 U/ml
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LKM-1-ANTIBODIES

Determination of antibodies to liver-kidney microsomal antigen 1

ITC66050	IgG	96 tests	LKM-1 peptide	Quantitative 12.5/25/50/100/200 U/ml	25 U/ml
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PR3-ANCA

Determination of antibodies to proteinase 3

ITC82020	IgG	96 tests	Proteinase 3	Quantitative 2.5/7.4/22.2/66.7/200 U/ml	10 U/ml
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Human Autoimmune DX Catalog

Human



Gastroenterology

The IMTEC product line for the detection of autoimmune bowel diseases includes ELISAs for specific autoantibody markers for celiac disease, d-gliadin (DGP) and tissue transglutaminase (tTG).

The Gastro-LIA is used for the detection of IgA and IgG autoantibodies of autoimmune gastrointestinal diseases and carries 5 different antigens that help to identify autoantibodies in patients suffering from gastrointestinal autoimmune diseases (celiac disease, Crohn's disease and autoimmune gastritis).

Anti-saccharomyces cerevisiae mannan antibodies (ASCA) are seen in Crohn's disease. Pernicious anemia can be detected by anti-parietal cell autoantibodies (PCA) and intrinsic factor (IF) autoantibodies.



Gastroenterology

Clinical Characteristics

Celiac Disease

Gluten triggered autoimmune mediated enteropathy.

Symptoms:

- Chronic diarrhea
- Abdominal pain
- Malabsorption syndrome:
nutrients + vitamins
- Osteoporosis
- Dermatitis
- Neurological problems
- Weight loss
- Chronic fatigue
- Depression
- Reduced bone mineral density

Symptoms in children and adolescents:

- Malnourishment
- Growth problems
- Weight loss
- Delayed puberty
- Depression

Crohn's Disease

Chronic inflammatory bowel disease.

Inflammation affects the whole gastro-intestinal tract from mouth to anus leading to stenosis, fistulas and abscesses.

Symptoms:

- Mucoid diarrhea
- Recurrent abdominal pain, right lower abdomen
- Weight loss
- Mild fever

Pernicious Anemia – Vitamin B12 Deficiency Anemia

Disturbed reabsorption from the ileum in chronic inflammation (Crohn's disease).

Prevention of absorption by intrinsic factor antibodies.

Failure of blood cells to mature due to vitamin B12 deficiency.

Symptoms:

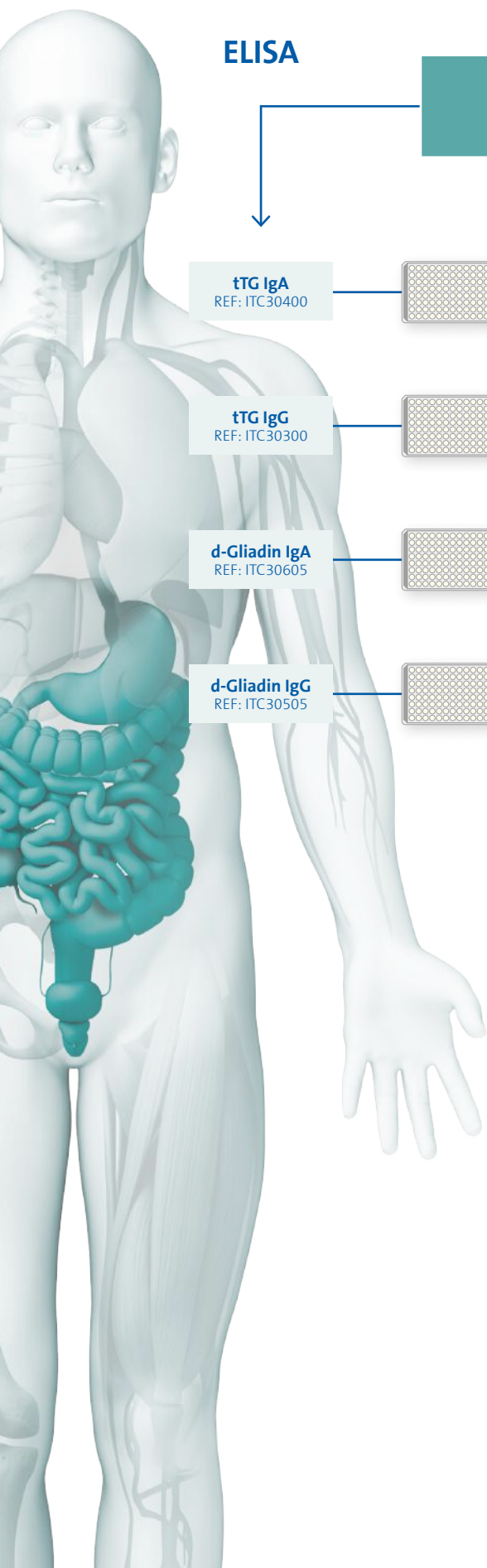
- Diarrhea
- Fatigue
- Pallor (anemia)
- Polyneuropathy



Line Immunoassays
Solutions



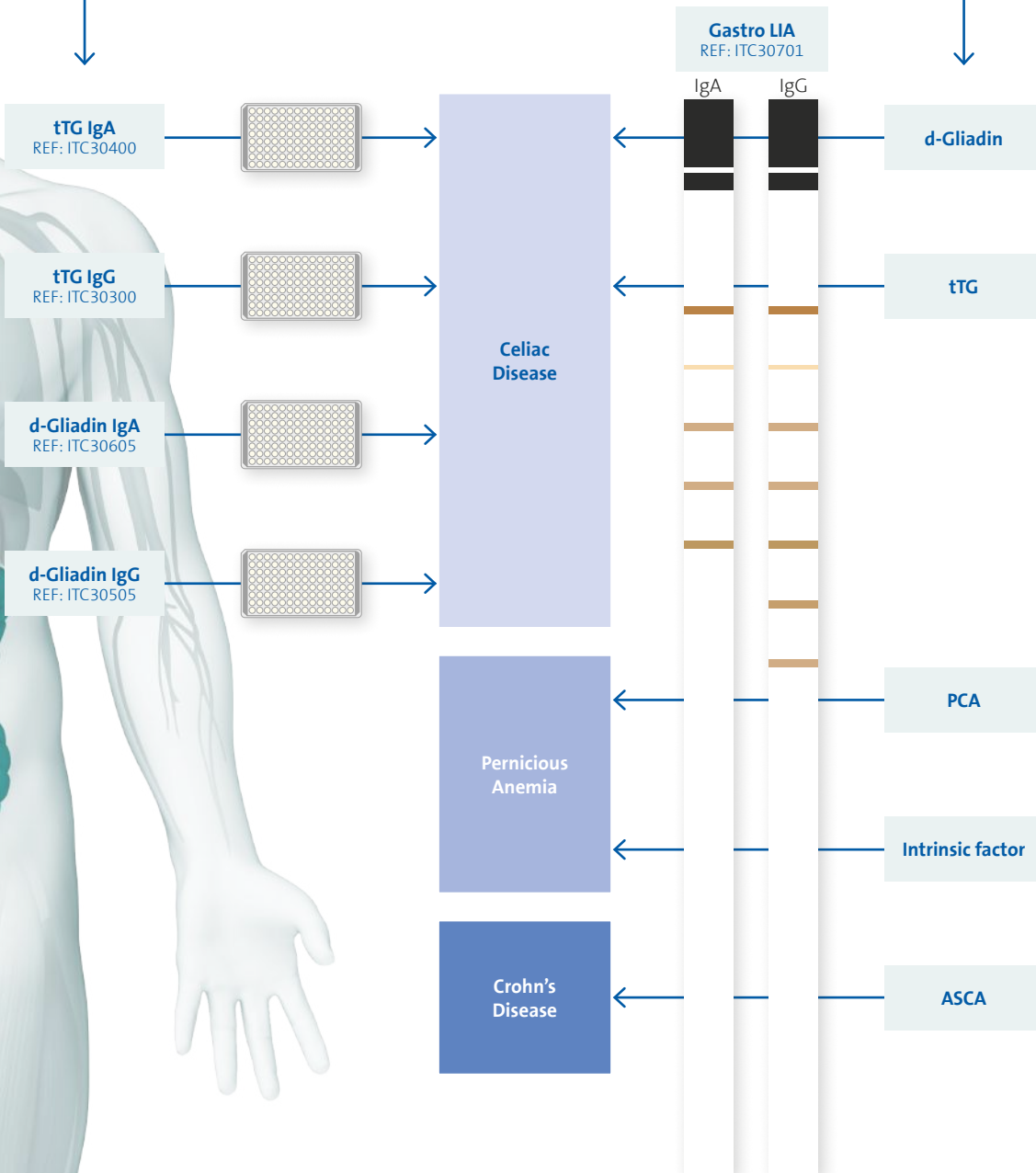
Diagnostic Options at a Glance



ELISA

LIA

Clinical Suspicion of Autoimmune Gastrointestinal Disease





Gastroenterology

LIA

Gastroenterology

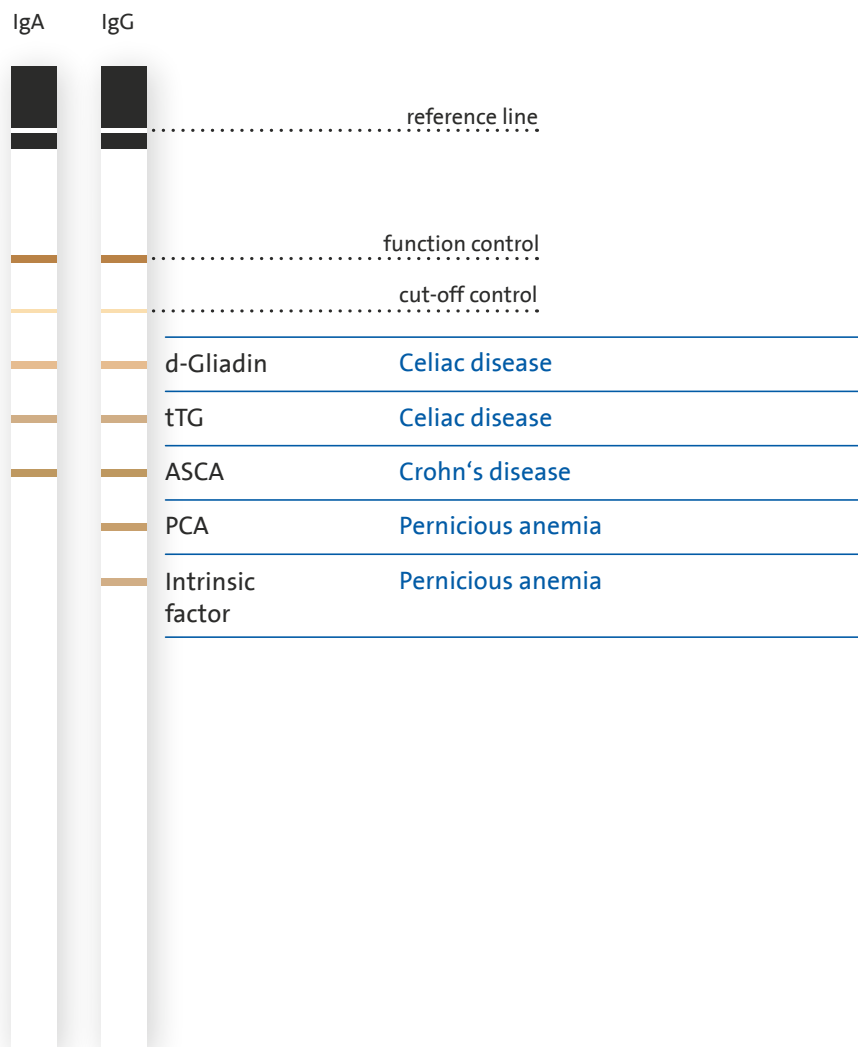
REF	Format	Unit/Size	Antigen	No. of Antigens	Calibration	Color Coding
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Gastro-LIA

Determination of antibodies to gastrointestinal diseases

ITC30701	IgG/IgA	24 tests	d-Gliadin, Tissue transglutaminase, ASCA, PCA, Intrinsic factor	5	Qualitative internal function and cut-off control	Black
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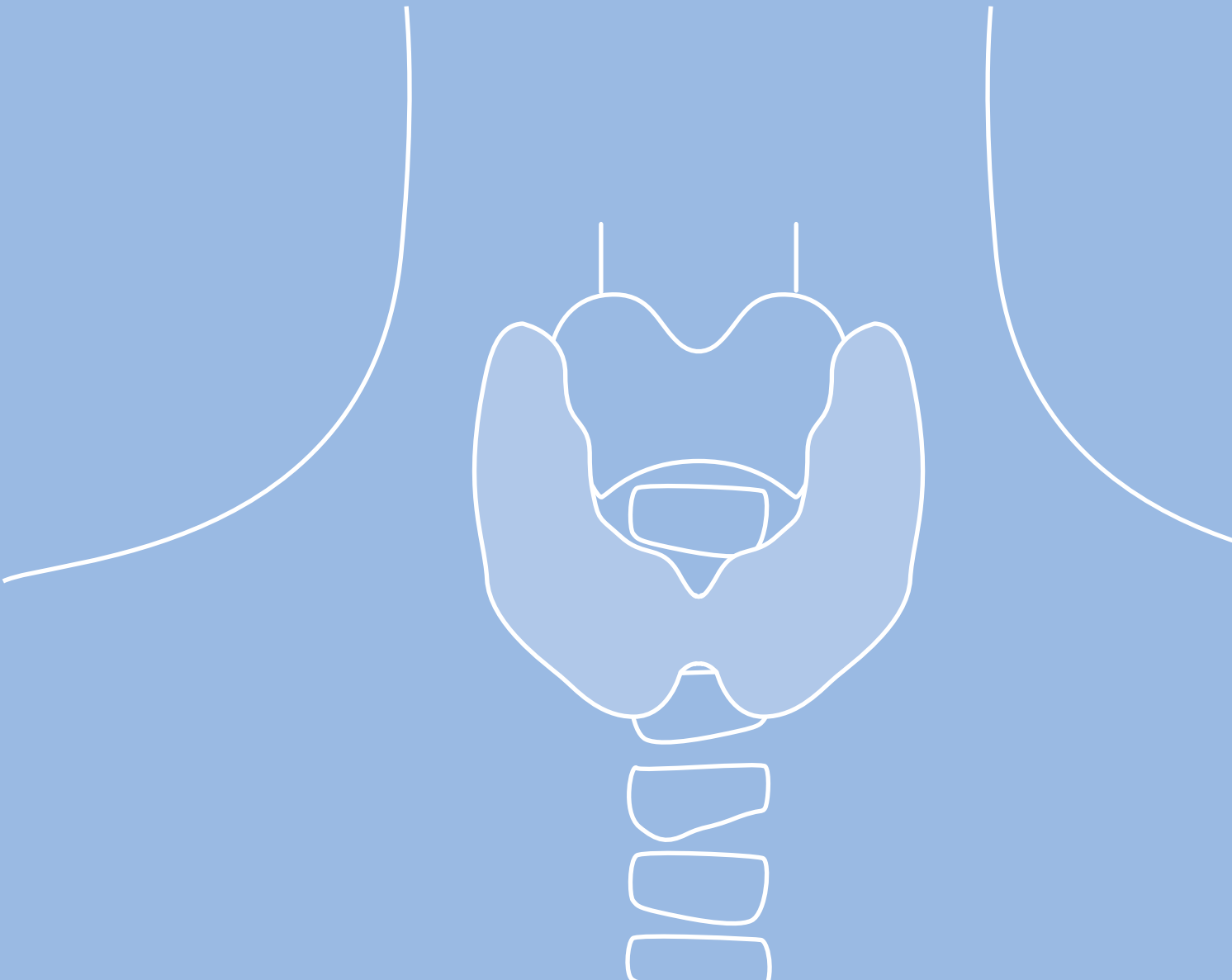
ELISA

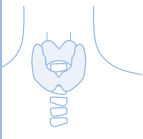
REF	Format	Unit/Size	Antigen	Calibration	Cut-off
d-GLIADIN-ANTIBODIES IgA Determination of antibodies to deamidated Gliadin					
ITC30605	IgG	96 tests	d-Gliadin	Quantitative 6.25/12.5/25/50/100 U/ml	10 U/ml
d-GLIADIN-ANTIBODIES IgG Determination of antibodies to deamidated Gliadin					
ITC30505	IgG	96 tests	d-Gliadin	Quantitative 6.25/12.5/25/50/100 U/ml	10 U/ml
t-TRANSGLUTAMINASE-ANTIBODIES IgA Determination of antibodies to tissue transglutaminase					
ITC30400	IgA	96 tests	Tissue transglutaminase	Quantitative 6.25/12.5/25/50/100 U/ml	10 U/ml
t-TRANSGLUTAMINASE-ANTIBODIES IgG Determination of antibodies to tissue transglutaminase					
ITC30300	IgG	96 tests	Tissue transglutaminase	Quantitative 6.25/12.5/25/50/100 U/ml	10 U/ml



Celiac disease frequently appears together with other autoimmune diseases:

- Diabetes mellitus type 1
- Autoimmune thyroiditis
- Autoimmune polyglandular syndrome





Endocrinology

Clinical Characteristics

Autoimmune Hyperthyroidism Graves' Disease

Autoimmune-mediated thyroid hyperfunction.

Symptoms:

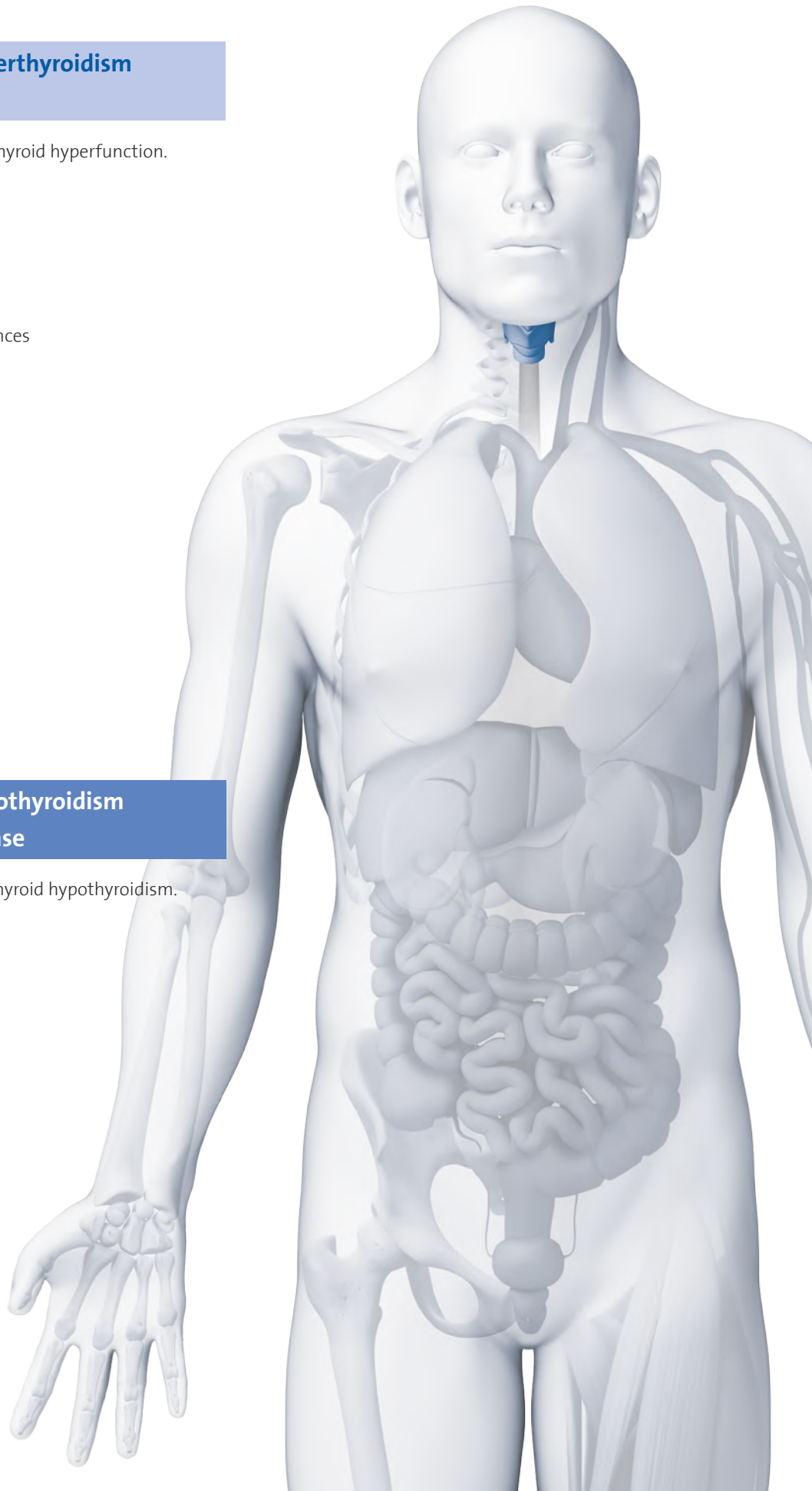
- Exophthalmos
- Struma
- Tachycardia
- Heart rhythm disturbances
- Nervousness
- Insomnia
- Rapid fatigue
- Sweating
- Heat sensitivity
- Hand tremor
- Exhaustion
- Diarrhea
- Weight loss
- Muscle and joint pain

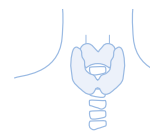
Autoimmune Hypothyroidism Hashimoto's Disease

Autoimmune mediated thyroid hypothyroidism.

Symptoms:

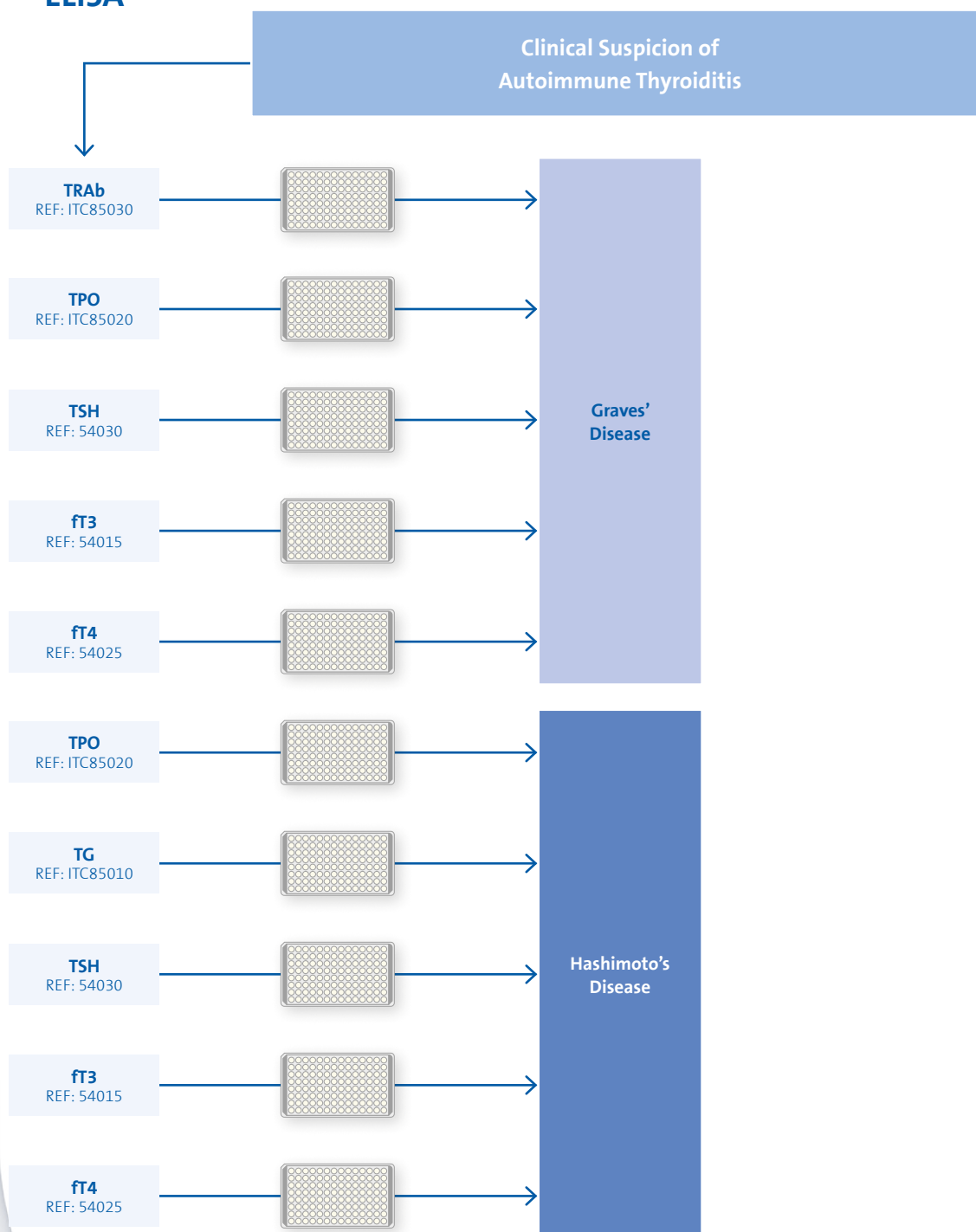
- Depression
- Fatigue
- Heat sensitivity
- Struma decreased
- Lack of concentration





Diagnostic Options at a Glance

ELISA



Clinical Relevance

Elevated or normal ft3/ft4 and low TSH (< 0.1mU/ml)

< **Hyperthyroidism** >

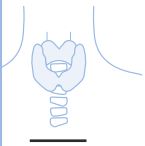
Elevated or normal TSH (> 4.5mU/ml) and low ft3/ft4

< **Hypothyroidism** >

Autoimmune Relevance

Anti-TSH-receptor-antibodies, anti-TPO-antibodies, low TSH

Anti-TG-antibodies, anti-TPO-antibodies, elevated TSH



Endocrinology

ELISA

Detection of thyroid autoantibodies (anti-TPO, anti-TG and anti-TR antibodies)

REF	Format	Unit/Size	Antigen	Calibration	Cut-off
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TG-ANTIBODIES

Determination of antibodies to thyroglobulin

ITC85010	IgG	96 tests	Thyroglobulin	Quantitative 15/60/240/960/3840 IU/ml	80 – 200 IU/ml
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TPO-ANTIBODIES

Determination of antibodies to thyroperoxidase

ITC85020	IgG	96 tests	Thyroperoxidase	Quantitative 11.5/46/183/732/2930 IU/ml	80 – 150 IU/ml
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TSH RECEPTOR ANTIBODIES

Determination of antibodies to TSH-receptor

ITC85030		96 tests	TSH-receptor	Quantitative 1/2/8/40 U/ml	1.1 – 1.5 U/ml
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Detection of thyroid hormones

REF	Unit/Size	Antigen	Calibration
-----	-----------	---------	-------------

ft3 (FREE TRIIODOTHYRONINE)

Determination of free Triiodothyronine

54015	96 tests	T3	Quantitative 0/1/3/5/8/16 pg/ml
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ft4 (FREE THYROXINE)

Determination of free Thyroxine

54025	96 tests	T4	Quantitative 0/0.40/1.25/2.10/5.00/7.40 ng/dl
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TSH (THYROTROPIN)

Determination of Thyrotropin

54030	96 tests	TSH	Quantitative 0/0.5/3/6/15/30 mIU/l
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Graves' disease frequently appears together with other autoimmune diseases

- Diabetes mellitus type 1
- Autoimmune gastritis
- Addison's disease
- SLE
- Rheumatoid arthritis

Instruments & Analyzers

HUMAN's autoimmune product line is completed by devices for the automatic processing of ELISAs and line immunoassays.

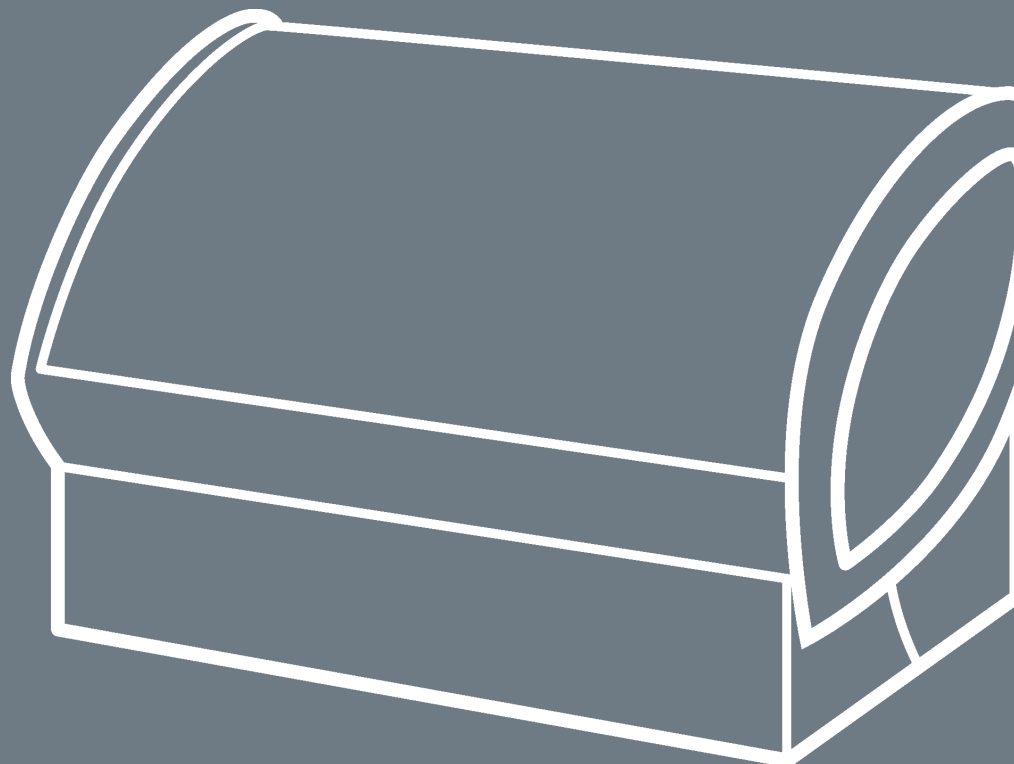
Fully automated ELISA processing is available for 1, 2 or 4 plates with different test combinations on each plate. The combination of HumaReader Single plus or HumaReader HS together with the Combiwash workstation is designed for low throughput ELISA users. All HUMAN ELISAs are pre-programmed on HUMAN's analyzers, and additional applications can be added at any time.

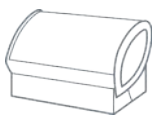
HumaBlot 44^{FA} is the new, fully automatic system for processing line immunoassays. HumaBlot 44^{FA} performs all steps from processing automatic sample dilutions and reagents, to scanning strips and reporting test interpretations.

The HumaScan software is designed for rapid, easy and objective interpretation of LIA results after manual processing.

The HumaScope Fluo^{LED} fluorescence microscope offers a maximum of flexibility.

With up to 4 different fluorescence channels it permits to work with many different fluorescence stains.



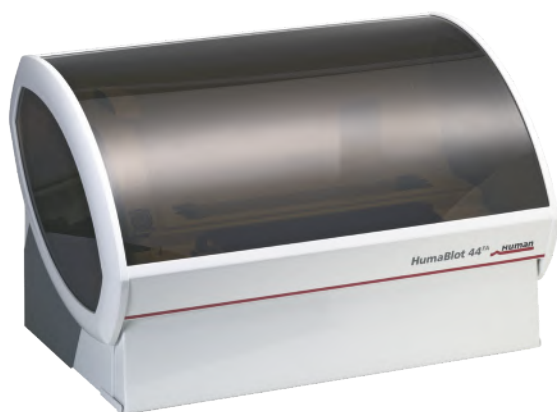


LIA Instruments and Analyzers

Fully Automated LIA System

HumaBlot 44^{FA} is a fully automated system for processing line immunoassays. HumaBlot 44^{FA} performs all steps from automatic sample dilutions, the full protocol to imaging strips and reporting test interpretations.

With a complete walk-away solution, a flexible number of tests, and up to 44 tests per run, it is optimally suited for labs from low to high throughput. All LIA combinations are possible to run on HumaBlot 44^{FA}. The settings are preinstalled and validated.



REF

ITC80000

HumaBlot 44^{FA}

Fully automated LIA system

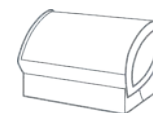
- Processing up to 3 assays simultaneously
- Flexible test number: 1-44 tests
- Tray capacity: 44 strips
- Any LIA combination possible
- Automatic sample dilution
- Fast dry heating system
- Automated LIA band interpretation
- Automatic instrument calibration
- Bidirectional LIS connection

Consumables

REF	Description
ITC80000/30	Incubation trays (30 pcs)
ITC80000/20	System solution 0.5 l

Accessories

REF	Description
ITC80000/15	Rack for Eppendorf tubes

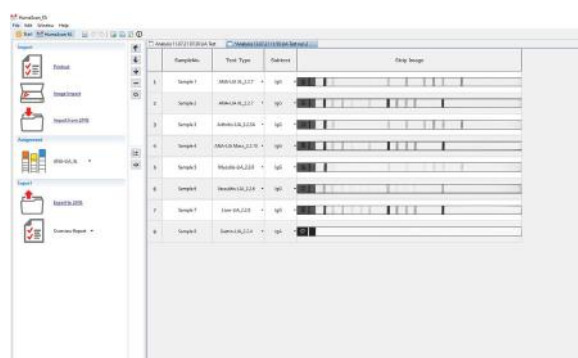


Devices for LIA Processing and Interpretation

The new HumaScan^{FA} software further simplifies the evaluation of LIA strips. The software already established for HumaBlot 44^{FA} is now also available with a flat-board scanner for fast and objective analysis of LIA strips. The specific autoantibody bands are identified and graphically displayed in an intensity profile for each individual patient. All IMTEC-LIA strip patterns are preinstalled and can be determined directly. Three different license models allow customer-specific selection.

HumaScan^{FA} software LIA interpretation software

- Simplified strip positioning
- Ready for Windows 10[®]
- Revision of the reported values is possible
- Capacity: 1-24 tests
- Bidirectional LIS connection
- Activated via a license code - no dongle is required



REF	Description
ITC80001	Software license
ITC80002	Software license without LIS
ITC80003	Software license for 2000 tests
ITC80004	Software license for 500 tests

Accessories

REF	Description
ITC02851i	CanoScan LiDE scanner
16430/11	2D barcode scanner

REF 14570

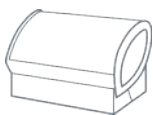
HumaRock Rocking shaker

- Tilt angle $\pm 7^\circ$
- Up to 80 rpm
- Universal plug (EU, UK, US)
- Variety of plates
- Delivered without attachment

Accessories

REF	Description
14570/10	Universal attachment with 3 bars
14570/12	Lengthways roller attachment
14570/14	Bar universal attachment black
14570/20	Work plate line immunoassay





ELISA Instruments and Analyzers

The HUMAN ELISA line of instruments and analyzers offers unique solutions for all sizes of laboratories from low to high throughput. All instruments and analyzers come with the HUMAN plug & run capability, meaning that all HUMAN ELISA assays are preprogrammed and individually validated.

Single strip reader and high speed plate reader are designed for low throughput ELISA users:

- HumaReader Line (reader)
- Combiwash (workstation)

Full automation is available for 1, 2 or 4 plates with different assay combinations on individual plates:

- Elisys Uno
- Elisys Duo
- Elisys Quattro

Workstation

With Combiwash, HUMAN offers a workstation for the washing, shaking and incubation of microtiter plates. Flexible washing protocols can be programmed, shaking and incubation are also freely definable.

REF

18460

COMBIWASH

Automatic microtiter plate washer, shaker and incubator

- Up to 100 wash protocols
- 4 different wash bottles
- 2 incubator positions for 25° C / 30° C or 37° C
- Plate shaking ability

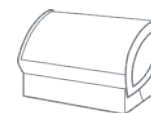


Accessories

REF	Description
18460/5	12-pin manifold
18460/26	110 VA transformer



Combiwash



Readers

Single strip and high-speed plate readers are designed for low throughput ELISA users. Both instruments are easy to use and provide reliable and fast results.



Accessories

REF	Description
18001	3 x 12 well boat
16801/20	Thermal printer paper (10 pcs)

REF 18000

HumaReader Single plus

Microtiter strip reader

- Most HUMAN assays preprogrammed (plug & run) and user programmable tests
- Color touchscreen
- Very short start-up time
- Convenient automatic strip transport (up to 3 strips)
- Curve and cut-off calculation
- Built-in printer and incubator
- Photometer with automatic filter wheel
- 4 filter wheel: 405, 450, 492, 630 nm installed

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HumaReader HS

REF 16670

HumaReader HS

Microtiter plate reader

- Most HUMAN assays preprogrammed (plug & run) and user programmable
- 8-channel, high-speed reading of full plate in 5 sec
- Memory for 200 tests and 10,000 results
- Touchscreen, Windows® software
- 8 filter wheel: 405, 450, 492, 630 nm installed

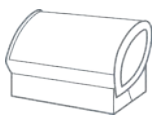
Accessories

REF	Description
16670/491	PC mouse with USB
18993L	Laser printer
16670/51	Filter optical 412 nm ¹
16670/52	Filter optical 420 nm ¹
16670/53	Filter optical 490 nm ¹
16670/54	Filter optical 505 nm ¹
16670/55	Filter optical 520 nm ¹
16670/56	Filter optical 540 nm ¹
16670/58	Filter optical 545 nm ¹
16670/59	Filter optical 546 nm ¹

Accessories

REF	Description
16670/57	Filter optical 550 nm ¹
16670/63	Filter optical 570 nm ¹
16670/60	Filter optical 578 nm ¹
16670/62	Filter optical 590 nm ¹
16670/61	Filter optical 595 nm ¹
16670/67	Filter optical 600 nm ¹
16670/65	Filter optical 650 nm ¹
16670/66	Filter optical 655 nm ¹

¹Spare part set attenuation glasses **REF 16670/82** must be ordered separately!



ELISA Instruments and Analyzers

Automated Analyzers

HUMAN's automated ELISA analyzers cover the requirements of small to large laboratories. Full automation is available for 1, 2 or 4 plates with different test combinations on each plate. Sample barcode reading for secure, automatic sample identification is standard on the larger instruments. All HUMAN ELISA tests are preprogrammed and validated. Additional applications can be added at any time.



REF 17350

Elsys Uno

1-plate fully automated ELISA analyzer including UPS

- Fully automatic processing of one microtiter plate
- Up to 8 parameters simultaneously on one plate
- Time management system
- Most HUMAN assays preprogrammed (plug & run) and user programmable tests
- 8 filter wheel: 405, 450, 492, 630 nm installed
- Robust steel needle with liquid level detectio



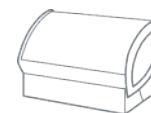
Elsys Uno

Accessories

REF	Description
17359/1C	AID predilution rack
17359/10	Blood bank rack
17359/1B	Combined dilution/reagent rack
17359/3	Reagent rack Dengue and H. Pylori
17359/4	Reagent rack HIV and Hepatitis
17359/5	Reagent rack hormone
17359/2	Reagent rack infectious diseases
17359/1	Reagent rack open design
17359/7	Sample rack 96 round sample ø 12 mm
17359/8	Sample rack 96 round sample ø 13 mm
17353/9	Bottle set (wash, waste, rinse)
17353/6	Rinse bottle 1 l with plain cap
17353/2	Rinse bottle 1 l with sensor cap
17353/3	Wash bottle 2 l with sensor cap
17353/7	Wash/waste bottle 2 l plain cap (1 pc)
17353/8	Wash/waste bottle 2 l plain cap (3 pcs)
17353/4	Waste bottle 2 l with sensor cap
18992P	PC with Windows®
17901M	TFT screen
18993L	Laser printer

Consumables

REF	Description
17350/B7	Reagent bottle 7 ml (100 pcs)
17350/13	Reagent bottle 15 ml (12 pcs)
17350/B25	Reagent bottle 25 ml (70 pcs)
17350/14	Reagent bottle 30 ml (12 pcs)
17350/B100	Reagent bottle 100 ml (10 pcs)
17350/16	Sample vials 2 ml (500 pcs)
17350/15	Sample vial caps (500 pcs)



REF 17200

Elisis Duo

2-plate fully automated ELISA analyzer including UPS

- Up to 3 plates in one run
- Swing arm mounted „all in one PC“ with Windows® 10 (touchscreen)
- Continuous loading of reagents, plates and samples
- Most HUMAN assays preprogrammed (plug & run) and user programmable tests
- 8 filter wheel with 450 nm and 620 nm installed
- Maximum safety with carbon coated tips



Elisis Duo



Movie

Accessories

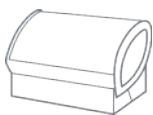
REF	Description
17200/30	Adapter 100 ml HUMAN square bottle
17200/31	Adapter ring 15 ml closed (set of 4)
17200/27	Adapter ring 15 ml (set of 6)
17200/28	Adapter ring 2.5 ml (set of 6)
17200/29	Adapter ring 16 ml (set of 6)
17200/139	Bottle organizer tray
17200/57	Filter optical 405 nm
17200/55	Filter optical 492 nm
17200/54	Filter optical 532 nm
17200/58	Filter optical 540 nm
17200/53	Filter optical 550 nm
17200/59	Filter optical 570 nm
17200/50	Filter optical 650 nm
17200/51	Filter optical 690 nm
18993L	Laser printer
17200/24	Rack control
17200/25	Rack reagent (2 lanes)
17200/23	Rack sample

Accessories

REF	Description
17200/124	Cap, bottle 2 l
17200/125	Square bottle, 1 l with cap
17200/123	Square bottle, PVC, 2 l without cap
17200/38	Washer bottle 1 l (level switch red)
17200/39	Washer bottle 2 l (level switch blue)
17200/40	Washer bottle 2 l (level switch yellow)

Consumables

REF	Description
16300/10	300 µl disposable tips (10 x 96 pcs)
16300/11	1100 µl disposable tips (10 x 96 pcs)
17200/255	Deep well dilution plate square (40 pcs)
17200/137	Waste bag with 'Biohazard' label (10 pcs)
17350/B7	Reagent bottle 7 ml (100 pcs)
17350/B25	Reagent bottle 25 ml (70 pcs)
17350/B100	Reagent bottle 100 ml (10 pcs)



ELISA Instruments and Analyzers

Automated Analyzers



REF 16300

Elisis Quattro

4-plate fully automated ELISA analyzer including UPS

- Walk-away capability
- Up to 7 plates in one run, 4 independent incubators
- Continuous loading
- HUMAN assays preprogrammed (plug & run) and user programmable



Elisis Quattro

Accessories

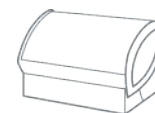
REF	Description
16300/71	Cable RS232 PCSys/analyzer
17200/124	Cap, bottle 2 l
17200/57	Filter optical 405 nm
17200/55	Filter optical 492 nm
17200/54	Filter optical 532 nm
17200/58	Filter optical 540 nm
17200/53	Filter optical 550 nm
17200/59	Filter optical 570 nm
17200/50	Filter optical 650 nm
17200/51	Filter optical 690 nm
16300/102	Plate carrier 'A1'
16300/38	Reagent rack 0
16300/40	Reagent rack 2
16300/39	Reagent rack II
16300/40-2	Reagent rack R
16300/41	Sample rack 20 positions
17200/125	Square bottle, 1 l with cap
17200/123	Square bottle, PVC, 2 l without cap
16300/49	Washer bottle 1 l black

Accessories

REF	Description
17200/38	Washer bottle 1 l (level switch red)
17200/39	Washer bottle 2 l (level switch blue)
17200/40	Washer bottle 2 l (level switch yellow)
18992P	PC with Windows®
17901M	TFT screen
18993L	Laser printer

Consumables

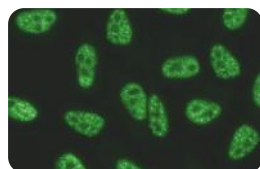
REF	Description
16300/10	300 µl disposable tips (10 x 96 pcs)
16300/11	1100 µl disposable tips (10 x 96 pcs)
18631	Dilution cuvettes
17200/137	Waste bag with 'Biohazard' label (10 pcs)
17350/B7	Reagent bottle 7 ml (100 pcs)
17350/B25	Reagent bottle 25 ml (70 pcs)
17350/B100	Reagent bottle 100 ml (10 pcs)



Immunofluorescence Instruments

LED Fluorescence Microscope

The HumaScope Fluo^{LED} microscope combining bright field capabilities with multi-channel fluorescence, to make daily work and fluorescence imaging simple, fast and accessible for every lab. The ergonomic LED microscope can be configured with up to 4 fluorescence LED channels to meet the specific requirements of flexible applications.



HumaScope Fluo^{LED}

LED Fluorescence microscope with trinocular head

- Infinity corrected plan achromatic objectives (antifungal coated) (4x, 10x, 40x and 100x oil)
- Compensation free Siedentopf head, inward 5-position objective revolver
- Koehler illumination
- Extra strong LED illumination, no replacement bulbs required
- Optional up to 4 fluorescence channels available
- Optional with rechargeable batteries

HumaScope Fluo^{LED}

Movie

REF	Features
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HumaScope Fluo^{LED}

State-of-the-art optics

14800	2-channel LED fluorescence (blue, green)
14804	2-channel LED fluorescence (blue, green) with rechargeable batteries
14801	3-channel LED fluorescence (blue, green, UV)
14802	3-channel LED fluorescence (blue, green, violet)
14803	4-channel LED fluorescence (blue, green, UV, violet)

Appendix

Synonyms
Diseases and Diagnostic Solutions
Index

Synonyms

A

- aCL** Anti-cardiolipin antibodies
- ACPA** Anti-citrullinated protein / peptide antibodies
- AKA** Anti-keratin antibodies
- AMA M2** Anti-mitochondrial antigen M2 (pyruvate dehydrogenase complex E2)
- ANA** Anti-nuclear antibodies
- ANCA** Anti-neutrophil cytoplasmic antibodies
- Annexin A5** see Annexin V
- Annexin V** Calcium-dependent phospholipid-binding protein outside vessel epithelial cells, prevents coagulation, 36 kDa
- aPL** Anti-phospholipid antibodies
- Apolipoprotein H** See β_2 GP1
- APS** Anti-phospholipid syndrome
- ASCA** Anti-saccharomyces cerevisiae antibodies
- ASO** Anti-streptolysin O antigen, 64 kDa

B

- β_2 GP1** β_2 -Glycoprotein
- beta₂-Glycoprotein 1** .. Lipid-binding glycoprotein of blood, 38 kDa

C

- C1q** Complement component 1q, receptor for modified immunoglobulins, protein oligomer, 400 kDa
- C3d** Complement component 3d, proteolytic product of complement component 3, associated with some kinds of CIC
- cANCA** Cytoplasmic ANCA (see PR3)
- CCP** Cyclic citrullinated peptide
- CIC** Circulating immune complex
- Centromere** Nuclear protein complex which links sister chromatids (see CENP-B)
- CENP-B** Centromere autoantigen B, part of centromere, 65 kDa
- CP4** Citrullinated protein / peptide
- CRP** C-reactive protein, inflammation biomarker, 25 kDa

D

- DFS70** Dense fine speckled, 70 kDa
- dsDNA** Double-stranded deoxyribonucleic acid
- d-Gliadin** Deamidated gliadin (see Gliadin)
- DGP** Deamidated gliadin peptide (see d-Gliadin)

E

- EMA** Endomysial antibodies (see tTG)
- ENA** Extractable nuclear antigens

G

- GBM** Glomerular basement membrane, the main autoantigen is type IV collagen
- Gliadin** Wheat protein, main component of gluten
- gp210** Glycoprotein of the nuclear pore, 210 kDa

H

- Histone** Basic proteins involved in DNA packaging, four forming the nucleosome (H2A, H2B, H3, H4), the fifth (H1) linking to nucleosomes
- hnRNP A2/B1** Heterogeneous nuclear ribonucleoprotein A2/B1 (see RA33), associates with nascent pre-mRNAs, 37 kDa

I

- IF** see Intrinsic factor
- Intrinsic Factor** Mucosal glycoprotein (gastric intrinsic factor, GIF) involved in vitamin B12 adsorption, 45 kDa

J

- Jo-1** Histidyl-tRNA synthetase, 47 kDa

K

- Ku70/Ku80** Complex of the proteins Ku70, Ku80 and DANN. Involved in DNA repair, 70 kDa and 80 kDa, resp.

L

- La** see SS-B/La
- LBR** Laminin B receptor (LMN2R), protein of the nuclear membrane, 71 kDa
- LC1** Liver cytosol antigen 1 (formimidoyltransferase cyclodeaminase, 59 kDa)
- LKM-1** Liver-kidney microsomal antigen 1 (cytochrome P450 2D6, 56 kDa)
- LPS** Lipopolysaccharides

M

- Mi-2** DNA/nucleosome-dependent helicase/ATPase, 240 kDa
- MPO** Myeloperoxidase (see pANCA)
- Myeloperoxidase** Enzyme expressed in neutrophil granulocytes (see MPO)

N

- Nucleosome** Chromatin structure, formed by a histone core surrounded by DNA

O

- oxLDL** Oxidized low-density lipoproteins

P

- P0** Ribosomal phosphoprotein P0 (see RPP), 34 kDa (isoform 1), 27 kDa (isoform 2)
- p70/p80** see Ku70/Ku80
- pANCA** Perinuclear antineutrophil cytoplasmic antigen (see MPO)
- PAP-1** see Annexin V
- PCA** Parietal cell antigen (gastric H⁺/K⁺-ATPase, 114 kDa)
- PCNA** Proliferating cell nuclear antigen, part of DNA polymerase delta, 29 kDa
- PL-7** Threonyl-tRNA synthetase (TARS), 83 kDa
- PL-12** Alanine-tRNA synthetase (AARS), 116 kDa
- PM-Scl** Exosome component 10, involved in RNA degradation, 101 kDa

Phosphatidyl-

- ethanolamine** Phospholipid
- Phosphatidylserine** ... Phospholipid
- PR3** Proteinase 3 (see cANCA), serine protease, 28 kDa
- Proteinase 3** see PR3
- Prothrombin** Coagulation factor II, 70 kDa

R

- RA33** Rheumatoid arthritis antigen 33 kDa (see hnRNP A2/B1)
- RF** Rheumatoid factor (mainly IgM antibodies)
- Rheumatoid Factor** ... see RF
- Ro 52** see SS-A/Ro 52
- Ro 60** see SS-A/Ro 60
- RPP** Ribosomal phosphoprotein (see P0)

S

- Salmonella enterica** ... Rod-shaped, Gram-negative, flagellated enterobacteria
- Salmonella typhimurium** Subspecies of *Salmonella enterica*
- Scl70** DNA topoisomerase I, 91 kDa
- SLA/LP** Soluble liver antigen/liver pancreas antigen, selenocysteine synthetase, 50 kDa
- Sm** Smith antigen, complex of the small nuclear ribonucleoprotein (see SmD1)
- SMA** Smooth muscle antigen (actin and non-actin components of cytoskeleton, see F-actin)
- SmD1** Smith antigen D1 (spliceosomal protein SmD1), 16 kDa
- Sp100** "Speckled pattern" nuclear protein, 53 kDa
- SS-A/Ro 60** Sjögren's syndrome antigen A: Ro, RNA-binding protein, 60 kDa
- SS-A/Ro 52** Sjögren's syndrome antigen A: Ro, E3 ubiquitin-protein ligase TRIM21, 52 kDa
- SS-B/La** Sjögren's syndrome antigen B: La, Lupus La protein, protects nascent RNA, 47 kDa
- ssDNA** single-stranded DNA
- ## T
- TG** Thyroglobulin, 305 kDa
- TPO** Thyroid peroxidase, 103 kDa
- TRAb** TSH-Receptor antibodies
- TRIM21** E3 ubiquitin-protein ligase TRIM21, (see SS-A/Ro 52)
- TSH-R** Thyroid-stimulating hormone receptor, thyrotropin receptor, 87 kDa
- tTG** Tissue transglutaminase 2, protein-glutamine gamma-glutamyltransferase 2, 77 kDa
- ## U
- U1-snRNP** U1 small nuclear ribonucleoprotein particle

Protein data from www.uniprot.org

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