Specialist in Diagnostics of Invasive Fungal Diseases
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Dynamiker Biotechnology (Tianjin) Co., Ltd. was established in March 2014 with a registered capital of 46 million RMB. It is a high-tech enterprise and engaged in R&D, production and clinical application of early and rapid In-vitro diagnostics (IVD) of Invasive Fungal Disease (IFD). The headquarters of the company is located at the Sino-Singapore Tianjin Eco-city. Its R&D center is based at the Tianjin International Joint Academy of Biomedicine, Tianjin Binhai New Area.

**Executive Team**

The executive team of Dynamiker follows up the principle of “Technology is Life, Innovation is Power”, and dedicated to serving our customers worldwide. Dr. Zeqi Zhou as a major founder of Dynamiker obtained his Ph.D. from Ohio University and postdoctoral training from Harvard Medical School. The scientific advisor team is led by Wanqing Liao, Academician of the Chinese Academy of Engineering. Currently, Dynamiker has 140 employees, a Postdoctoral Training Center and an Academician Workstation.

**Technology Platform**

Dynamiker has established 6 technology platforms certified by the ISO 13485. Those are used for preparations of invasive fungal biomarkers; specific antibodies; the development and manufacturing of assays; the microbial automation; the microfluidics technology; and a R&D laboratory for breeding Asian horseshoe crabs as used for diagnostic applications. All of these platforms provide all-round support for our technology innovation and product transformation.

**Product Advantage**

Dynamiker has developed over 10 novel products for the early diagnosis of IFD, 5 of which were approved by CFDA, 10 CE-marked, 4 registered in Turkey and 2 in Brazil. The registered products have showed very competitive over the international competitors.

**Market Strategy**

In domestic, Dynamiker products entered into over 300 tertiary hospitals, such as Peking Union Medical College Hospital, Beijing 301 Military Hospital, Sir Run Run Shaw Hospital School of Medicine in Zhejiang University, Sichuan Provincial People’s Hospital and First Affiliated Hospital of Sun Yat-Sen University, etc. At abroad, Dynamiker has distributors in over 20 countries such as UK, France, Italy, Spain and Brazil, etc.

**Customer Service**

Dynamiker is customer-oriented and greatly gained customer trusts and supports. It undertakes the responsibility for after-sales services by introducing a support and management system, composed of a clinical trial center, a distributor technical support team, Dynamiker customer service team and R&D team.

**Our Vision**

Looking forward, all of us are full of confidence and dynamics. Dynamiker keeps upholding our enterprise spirit of “Unity, Practicability, Openness and Innovation”. We are working together to make our company as a global leader in IFD-IVD field, to build-up our products as the international brand, and to drive our IPO launched by 2020.
Invasive Fungal Disease

Invasive Fungal Disease (IFD) is a fungal infectious disease that is caused by the pathogenic fungus through invading sub-cutaneous tissues, mucous membrane, musculus and internal organs.

With the wide application of broad-spectrum antibiotics, corticosteroid, immunosuppressant and anti-tumor drugs, as well as the prevalence of AIDS and development of organ transplantation, the morbidity of IFD is increasing rapidly.

IFD is increasing every year*
- >310 million people infected by fungi annually
- >11.50 million people infected by fatal fungi annually
- >1.50 million deaths from IFD patients annually

Invasive Fungal Disease includes: Candidemia, Invasive Aspergillosis, Cryptococcal meningitis, Candidiasis, Chronic Pulmonary Aspergillosis (CPA), Pneumocystis Jiroveci Pneumonia (PJP), Allergic Bronchopulmonary Aspergillosis (ABPA) etc.

Clinical Diagnostic Procedure and Methods of IFD
Products for Detecting Infectious Markers

Panfungal Screening

Fungus (1-3)-β-D-Glucan Assay (Colorimetric)
Catal. No.: DNK-1401-1  Specification: 96 TESTS/KIT   Sample: Serum   Time Duration: Within 40 minutes

Antigen Detection of Invasive Fungal Disease

Aspergillus Galactomannan Assay (ELISA)
Catal. No.: DNK-1402-1  Specification: 96 TESTS/KIT   Sample: Serum /BAL   Time Duration: Within 2 hours

Candida Mannan Assay (ELISA)
Catal. No.: DNK-1403-1  Specification: 96 TESTS/KIT   Sample: Serum   Time Duration: Within 1.5 hours

Cryptococcus neoformans Antigen Assay (ELISA)
Catal. No.: DNK-1404-1  Specification: 96 TESTS/KIT   Sample: Serum /CSF   Time Duration: Within 1.5 hours

Cryptococcal Antigen Lateral Flow Assay (LFA)
Catal. No.: DNK-1411-1  Specification: 40 TESTS/KIT   Sample: Serum /CSF   Time Duration: 15-20 mins

Antibody Detection of Invasive Fungal Disease

Aspergillus fumigatus IgM Assay (ELISA)
Catal. No.: DNK-1406-1  Specification: 96 TESTS/KIT   Sample: Serum /Plasma   Time Duration: Within 2.5 hours

Aspergillus fumigatus IgG Assay (ELISA)
Catal. No.: DNK-1407-1  Specification: 96 TESTS/KIT   Sample: Serum /Plasma   Time Duration: Within 2.5 hours

Candida albicans IgM Assay (ELISA)
Catal. No.: DNK-1408-1  Specification: 96 TESTS/KIT   Sample: Serum /Plasma   Time Duration: Within 2.5 hours

Candida albicans IgG Assay (ELISA)
Catal. No.: DNK-1409-1  Specification: 96 TESTS/KIT   Sample: Serum /Plasma   Time Duration: Within 2.5 hours

Candida IgM Lateral Flow Assay (LFA)
Catal. No.: DNK-1412-1  Specification: 40 TESTS/KIT   Sample: Serum   Time Duration: 5-10 mins

Candida IgG Lateral Flow Assay (LFA)
Catal. No.: DNK-1413-1  Specification: 40 TESTS/KIT   Sample: Serum   Time Duration: 5-10 mins

Detection of Microbiological Markers

Human Procalcitonin Assay (ELISA)
Catal. No.: DNK-1405-1  Specification: 96 TESTS/KIT   Sample: Serum /Plasma   Time Duration: Within 30 minutes
Fungus (1-3)-β-D-Glucan Assay (Colorimetric)

Catalogue No.: DNK-1401-1

Description

(1-3)-β-D-glucan is widely present in the fungal cell wall and acts as a specific biomarker for fungal infection. The glucan specifically binds to factor G in the Main Reagent, activating its serine protease zymogen. The cascade of reactions changes the absorbance of the substrate and quantifies the (1-3)-β-D-glucan concentration.

Advantage

- Microplate reader detection at 405nm using kinetic chromogenic method: Matches international standard
- High throughput and rapid detection: It takes only 40 minutes to complete diagnosis for 96 sets of samples
- Breakable microplate strips: Flexible and easy to use
- Samples with background color (such as jaundice, hemolysis etc.) have little effect on the diagnosis
- Small amount of patient samples needed: Only 20μl of serum for each test
- Safe and convenient experimental procedures: Reduces rate of contamination and workload

Test Procedure

Serum Sample → Treatment Solution → Add Main Reagent

Incubate at 37℃ for 10 min → Kinetic reading at 37℃ for 40 min → Results are available

Features

- Specimen: Serum
- Specification: 96 tests
- Detection Range: 37.5-600pg/mL
- Percent Recovery: 75%-125%
- Endotoxin Shielding: 1.0 EU/mL
- Intra-assay CV: ≤10%
- Inter-assay CV: ≤12%

High-Risk Population

Neutropenic (Neutrophil conc. <0.5×10⁹ /L)
- Bone marrow and solid organ transplantation
- Anti-tumor agent and immunosuppressant

Non-neutropenic
- Long-term hormone therapy
- Long-term use of broad-spectrum antibiotics
- Intubation and other invasive treatments
- HIV infection
- Chronic obstructive pulmonary disease
- ICU inpatient
An evaluation of the performance of the Dynamiker® Fungus (1-3)-β-D-Glucan Assay to assist in the diagnosis of invasive aspergillosis, invasive candidiasis and Pneumocystis pneumonia

P. Lewis White¹,*, Jessica S. Price¹, Raquel B. Posso² and Rosemary A. Barnes²

Table 2. Clinical performance of the Dynamiker® Fungus (1-3)-β-D-Glucan Assay.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Fungal disease</th>
<th>Combined Proven/Probable IFD vs NEF</th>
<th>Combined Proven/Probable/Possible IFD vs NEF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td>17/21; 81.0, 60.0–92.3</td>
<td>35/43; 81.4,</td>
<td>38/57; 66.7,</td>
</tr>
<tr>
<td>Specificity</td>
<td>50/64; 78.1, 66.6–86.5</td>
<td>50/64; 78.1,</td>
<td>50/64; 78.1,</td>
</tr>
<tr>
<td>LR+ive</td>
<td>3.70</td>
<td>3.72</td>
<td>3.05</td>
</tr>
<tr>
<td>LR–ive</td>
<td>0.24</td>
<td>0.24</td>
<td>0.43</td>
</tr>
<tr>
<td>DOR</td>
<td>15.42</td>
<td>15.50</td>
<td>7.09</td>
</tr>
</tbody>
</table>

Sensitivity: 81.4%
Specificity: 78.1%
AUC: 0.8192
**Aspergillus Galactomannan Assay (ELISA)**

Catalogue No.: DNK-1402-1

**Description**

Galactomannan (GM) is the main polysaccharide cell wall component of *Aspergillus*. It is the first biomarker released into the bloodstream during fungal growth. Quantitative serological analysis of GM provides an important reference for the early diagnosis of invasive aspergillosis.

![Aspergillus](image1)

**Molecular Structure of GM**

**Advantage**

- Quantitative detection of *Aspergillus* galactomannan
- Rapid detection of invasive aspergillosis
- Accurately reflects changes in health condition by detecting galactomannan concentration
- Competitive ELISA: Higher specificity

**Features**

<table>
<thead>
<tr>
<th>Specimen</th>
<th>Serum/BAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specification</td>
<td>96 tests</td>
</tr>
<tr>
<td>Detection Range</td>
<td>0.25-5μg/L</td>
</tr>
<tr>
<td>Percent Recovery</td>
<td>80-120%</td>
</tr>
<tr>
<td>Intra-assay CV</td>
<td>≤10%</td>
</tr>
<tr>
<td>Inter-assay CV</td>
<td>≤15%</td>
</tr>
</tbody>
</table>

**High-Risk Population**

1. Severe neutropenia
2. Immunodeficiency
3. Solid organ transplantation
4. ICU inpatients
5. Hematological malignancy
6. Bone marrow transplantation
7. Long-term hormone therapy
8. Chronic obstructive pulmonary disease

**Advantage of G + GM Combined Detection**

1. Complete two tests using the same serum sample
2. Complete two tests in one microplate reader
3. Significant increase in sensitivity and specificity
4. Significant improvement in positive and negative predictive value

*Suhail Ahmad, Ziauddin U. Khan. Diagnostic value of DNA, (1-3)-β-D-glucan, and galactomannan detection in serum and bronchoalveolar lavage of mice experimentally infected with Aspergillus terreus[J]. Diagnostic Microbiology and Infectious Disease 59 (2007) 165 – 171*
Aspergillus fumigatus IgM/IgG Antibody Detection

An indirect EIA is designed for the detection of anti-galactomannan IgM/IgG antibodies in human serum or plasma. The antibodies are used as the markers for IA.

Test Principle

![Test Principle Diagram]

Features

- **96 tests**: ELISA microplate with breakable strips
- **Specimen**: Serum or Plasma
- **Analyte**: Anti-galactomannan IgM/IgG antibodies
- **Rapid**: Result within 2.5 hours
- **Sensitivity**: >85%
- **Specificity**: >92%

Combine Aspergillus Ag & Ab Tests

![Combination Diagram]


The Aspergillus IgG antibody test is the most sensitive microbiological test (strong recommendation; moderate-quality evidence).*

*IDSA Practice Guidelines for the Diagnosis and Management of Aspergillosis: 2016 Update by the Infectious Diseases Society of America
**Candida Mannan Assay (ELISA)**

**Catalogue No.: DNK-1403-1**

*Candida* is the most common fungal opportunistic pathogen. Invasive candidiasis (IC) accounts for approximately 50% of invasive fungal diseases (IFD). **Mannan (Mn)** is the major cell wall and antigenic component of *Candida* (30~40% of cell weight). It is considered to be a biomarker useful for the diagnosis of invasive candidiasis.

### Advantage
- Quantitative detection of *Candida* antigen
- Early and rapid detection of invasive candidiasis
- Reference for judging medical condition and treatment evaluation

### Features
- **Specimen:** Serum
- **Specification:** 96 tests
- **Detection Range:** 0.5-10μg/L
- **Percent Recovery:** 80-120%
- **Intra-assay CV:** ≤10%
- **Inter-assay CV:** ≤15%

### High-Risk Population
- (1) Severe neutropenia
- (2) Immunodeficiency
- (3) Transplantation
- (4) ICU inpatients
- (5) Diabetics
- (6) Renal failure
- (7) Hemodialysis
- (8) Use of broad-spectrum antibiotics
- (9) Central venous catheter

### M Test + G Test Combined Detection – Significantly Improves the Accuracy of Diagnosis

![Bar diagram showing the increasing sensitivity of the diagnostic tests to detect Candida infection in clinically suspected candidiasis patients. A: Mannan Ag, B: BDG, C: Mannan+BDG](image)

* BMC Infectious Disease, 2007, 7:103*
**Candida albicans IgM/IgG Antibody Detection**

It is an indirect EIA for the detection of anti-mannan IgM/IgG in human serum or plasma. The antibodies are used for IC detection.

**Test Principle**

![Test Principle Diagram](image)

**Features**

- 96 tests
- ELISA microplate with breakable strips
- Specimen: Serum or Plasma
- Analyte: Anti-mannan IgM/IgG antibodies
- Rapid: Result within 2.5 hours
- Sensitivity: >86%
- Specificity: >88%

**Combine Mannan Ag & Ab Test**

![Graph](image)

Variation of antibody level can be used as a reference for clinicians to adjust medication and drug withdrawal.

Day 1, AMB (1mg/Kg);
Day 0 to day 9, Abelcet (300mg/day) itraconazole (60mg/day);
Day 10 to day 22, itraconazole (600mg/day);
Day 23 to day 50, voriconazole (400mg/day) i.v.;
Day 50 to day 70, voriconazole (400mg/day) per os

Cryptococcus neoformans (CN)

Cryptococcus neoformans is one of the major causes of deep fungal infections in immunocompromised patients. Currently, the incidence rate of Cryptococcosis ranges from 5 to 10%, while it can be as high as 30% in AIDS patients. Glucuronoxylomannan (GXM) is the major virulence factor secreted by C. neoformans. It is a reliable marker that is detectable in blood and cerebrospinal fluid (CSF).

Advantage
- Quantitative Detection
- High Throughput
- High Sensitivity
- High Accuracy
- Strong Anti-interference capability

Features

<table>
<thead>
<tr>
<th>Specimen</th>
<th>Serum / CSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specification</td>
<td>96 tests</td>
</tr>
<tr>
<td>Detection Range</td>
<td>3.2-100μg/L</td>
</tr>
<tr>
<td>Percent Recovery</td>
<td>90-115%</td>
</tr>
<tr>
<td>Intra-assay CV</td>
<td>≤10%</td>
</tr>
<tr>
<td>Inter-assay CV</td>
<td>≤15%</td>
</tr>
</tbody>
</table>

ELISA Method Has Much Fewer Confounding Factors than Latex Agglutination

<table>
<thead>
<tr>
<th>Latex Agglutination</th>
<th>ELISA Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Factors for False Positivity</td>
<td>Other microbial infections, such as Trichosporon sp.</td>
</tr>
<tr>
<td>2. Serum containing rheumatoid factor</td>
<td></td>
</tr>
<tr>
<td>3. Specimens containing agar coagulant, hydroxyethyl starch</td>
<td></td>
</tr>
<tr>
<td>4. Serum trivalent Fe content exceeds 200mg/dl</td>
<td></td>
</tr>
<tr>
<td>5. Other microbial infections, such as Trichosporon sp.</td>
<td></td>
</tr>
<tr>
<td>6. Non-specific aggregation due to HIV infection</td>
<td></td>
</tr>
<tr>
<td>7. Inappropriate use of cleaning agents and testing agents, such as test slide</td>
<td></td>
</tr>
<tr>
<td>8. Treatment using pronase</td>
<td></td>
</tr>
<tr>
<td>Factors for False Negativity</td>
<td>Other microbial infections, such as Trichosporon sp.</td>
</tr>
<tr>
<td>9. In early stage of infection, GXM concentration is too low</td>
<td>In early stage of infection, GXM concentration is too low</td>
</tr>
<tr>
<td>Serum containing immune complexes</td>
<td>Serum containing immune complexes</td>
</tr>
<tr>
<td>10. GXM antigen concentration is too high, resulting in postzone phenomenon</td>
<td></td>
</tr>
<tr>
<td>11. There is too little amount of fungal capsule, leading to low antigen secretion</td>
<td>There is too little amount of fungal capsule, leading to low antigen secretion</td>
</tr>
</tbody>
</table>

References:
**Description**

The Cryptococal Antigen Lateral Flow Assay (LFA) is a dipstick sandwich immunochromatographic assay for the detection of capsular polysaccharide antigens of *Cryptococcus* species complex (*Cryptococcus neoformans* and *Cryptococcus gattii*) in human serum and cerebral spinal fluid (CSF).

**Advantage**

- Early and rapid detection of *Cryptococcus* infection
- High sensitivity and specificity
- Time and cost saving
- Easy to carry and use
- Adequate in resource-limited settings

**Features**

- Specimen: Serum/CSF
- Specification: 40 tests/kit
- Limit of detection: 1ng/mL
- Detection time: 15-20mins
- Clinical sensitivity: > 98%
- Clinical specificity: > 98%
- Inter-assay variation: ≤ 15%

**Reference Value of Quantitative Antigen Detection in Clinical Diagnosis and Treatment**

[Graph showing antigen concentration over time during induction, consolidation, maintenance, and withdrawal phases]

*Adapted from BJ Park et al., AIDS 2009;23:525-530*

**Sample Pad**

**Conjugate pad**

**Control Line (C)**

**Absorbent Pad**

**Capillary Flow**

**Test Line (T)**

**NC Membrane (Nitrocellulose Membrane)**

www.dynamiker.com
Description

The Dynamiker Candida IgG/IgM Lateral Flow Assay (LFA) is a dipstick sandwich immunochromatographic assay for the detection of Candida IgG/ IgM in human serum.

Features

- **Specimen**: Serum
- **Analyte**: Candida IgG/ IgM antibodies
- **Specification**: 40 tests
- **Limit of detection**: 60AU/mL
- **Detection time**: 5-10 mins

Advantage

- Early and rapid detection of Candida IgG/ IgM antibodies
- Time and cost effected-effective
- Easy to use
- Adequate in resource-limited settings

### Incidence of invasive candidiasis in various populations.

<table>
<thead>
<tr>
<th>Risk of IC *</th>
<th>Patient Characteristics</th>
<th>Type of IC **</th>
<th>Incidence ***</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Any hospitalized patient in whom a blood culture is collected</td>
<td>Candidemia</td>
<td>&lt;1%</td>
<td>[11,12,20]</td>
</tr>
<tr>
<td></td>
<td>Residence in the ICU without further risk stratification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Residence in the ICU post-cardiothoracic surgery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low-to-moderate</td>
<td>Peritoneal dialysis with peritonitis</td>
<td>Intra-abdominal candidiasis</td>
<td>~3%-6%</td>
<td>[21]</td>
</tr>
<tr>
<td></td>
<td>Presence of septic shock</td>
<td>Candidemia</td>
<td>~3%-7%</td>
<td>[13,14,16]</td>
</tr>
<tr>
<td></td>
<td>ICU residence for ≥4 days</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td>ICU residence for ≥4 days with additional risk factors for IC</td>
<td>Candidemia</td>
<td>~10%-15%</td>
<td>[15,16]</td>
</tr>
<tr>
<td>High</td>
<td>Severe acute or necrotizing pancreatitis</td>
<td>Intra-abdominal candidiasis</td>
<td>~20%-40%</td>
<td>[7,8,19]</td>
</tr>
</tbody>
</table>


www.dynamiker.com
Clinical Facts

In recent years, invasive diagnostic procedures, bacterial antibiotic resistance, severe trauma, organ transplant and chemotherapy patients are becoming more common than ever. These factors have led to a rising rate in hospital infections, sepsis, septic shock and multiple organ dysfunction syndrome (MODS), which are the main reasons for death in patients. Therefore, early and differential diagnosis as well as treatment are very important. However, conventional methods that are currently available (e.g. blood culture, C-reactive protein, white blood cell count and classification etc.) have various limitations and cannot meet the needs of clinical diagnosis.

Procalcitonin (PCT)

Procalcitonin (PCT) is the peptide precursor of the hormone calcitonin. It is composed of 116 amino acids with a molecular weight of around 13kD. The molecule is comprised of three main parts: N-terminus, calcitonin and C-terminus. PCT has an in vivo half-life of 25-30 hours and has high in vitro stability.

Diagnostic Value of Procalcitonin (PCT) in Bacterial Infection

- Low level in serum of healthy people
- Responsive to systematic bacterial, fungal and parasitic infections
- Little or no reaction towards non-bacterial inflammation, viral infections, cancer, autoimmune diseases and localized infection
- PCT levels decrease rapidly with an effective antibiotic treatment.

Characteristics of PCT

- Sensitivity 95% & Specificity 98%

Serum PCT Concentration in Various Diseases

<table>
<thead>
<tr>
<th>PCT (ng/mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05</td>
</tr>
<tr>
<td>0.5</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>10</td>
</tr>
</tbody>
</table>

Clinical Status
- Healthy
- Local infection
- Systemic infection (sepsis)
- Severe sepsis
- Septic shock

Usage of Antibiotic
- Prohibition of antibiotic use (strongly recommended)
- Further observation
- Antibiotic treatment (Recommended)
- Continuous use of antibiotic
- Antibiotic treatment (strongly recommended)

Procedure

1. Sample + Conjugate 50μL
2. Wash (3 Times) 37°C 10 min
3. Substrate Solution (100μL)
4. 450nm OD
5. Stopping Solution 50μL
6. 37°C, 10 min

Features

- Specification: 96 tests
- Specimen: Serum or Plasma
- Analyte: Procalcitonin
- Reliable results: Sensitivity 95% & Specificity 98%
Combined Detection of Antigens and Antibodies

1. Contribute to complementary and synergistic effect on clinical sensitivity and specificity.
2. Provide an aid for analyzing stages of infections, early diagnosis, timely treatment and monitoring medication. It helps the prognosis of patients and greatly reduces the mortality of IFD.

Invasive Fungal Panel Detection (4 Tests)
G Test + GM Test + Mn Test + GXM Test

Aspergillus Panel Detection (4 Tests)
G Test + GM Test + A. fumigatus IgM + A. fumigatus IgG

Candida Panel Detection (4 Tests)
G Test + Mn Test + C. albicans IgM + C. albicans IgG

Invasive Fungal Antigen + Antibody Panel Detection (8 Tests)
G Test + GM Test + Mn Test + GXM Test + A. fumigatus IgM + A. fumigatus IgG + C. albicans IgM + C. albicans IgG
### Key Clinical Departments of IFD

| **Candidiasis** | ICU, Hematology Department, Pneumology Department, Oncology Department, Transplantation Department, etc. |
| **Aspergillosis** | Hematology Department, Pneumology Department, ICU, Oncology Department, Transplantation Department, Infectious Department, etc. |
| **Cryptococcosis** | Infectious Department, ICU, Transplantation Department, etc. |

### Guidelines

- Revised Definitions of Invasive Fungal Disease from the EORTC/MSG Consensus Group, 2008
- ERS and ESCMID guideline for the management of chronic pulmonary aspergillosis, 2015
- IDSA Practice Guidelines for the Diagnosis and Management of Aspergillosis: 2016 Update by the Infectious Diseases Society of America

#### Aspergillus Galactomannan Assay

- Revised Definitions of Invasive Fungal Disease from the EORTC/MSG Consensus Group, 2008
- ERS and ESCMID guideline for the management of chronic pulmonary aspergillosis, 2015
- IDSA Practice Guidelines for the Diagnosis and Management of Aspergillosis: 2016 Update by the Infectious Diseases Society of America

#### Fungus (1, 3)-β-D-Glucan Assay

- Revised Definitions of Invasive Fungal Disease from the EORTC/MSG Consensus Group, 2008
- ESCMID guideline for the diagnosis and management of Candida diseases 2012: diagnostic procedures
- IDSA Practice Guidelines for the Diagnosis and Management of Aspergillosis: 2016 Update by the Infectious Diseases Society of America
- Clinical Practice Guideline for the Management of Candidiasis: 2016 Update by the Infectious Diseases Society of America

#### Candida Mannan/Anti-Mannan Assay

- ESCMID guideline for the diagnosis and management of Candida diseases 2012: diagnostic procedures

#### Cryptococcus neoformans Antigen Assay

- Revised Definitions of Invasive Fungal Disease from the EORTC/MSG Consensus Group, 2008

#### Aspergillus fumigatus IgG Assay

- ERS and ESCMID guideline for the management of chronic pulmonary aspergillosis, 2015
- IDSA Practice Guidelines for the Diagnosis and Management of Aspergillosis: 2016 Update by the Infectious Diseases Society of America
Semi-automation & Fully Automation Platforms

Semi-automation Platform

- TECAN SUNRISE™
- BioTek ELx808™

Automation Platform

- DNK - A400
- DS2 Automation Platform

Automation ELISA Platforms

- TECAN
We Care the Diagnosis of Invasive Fungal Disease.

Candida  Aspergillus  Cryptococcus  Pneumocystis
For the Benefit of Human Health