TECOmedical Group

A EUROBIO SCIENTIFIC COMPANY

TECO®FungiLine

Routine diagnostics for the detection of fungal diseases

TECO®Fungi product line for reliable diagnostics

TECO®FungiLine *Fast* Fluorescence System

> *Fast* Fungus (1-3)-β-D-Glucan Antigen Assay
> *Fast* Aspergillus Galactomannan Antigen Assay
> *Fast* Aspergillus IgG Antibody Assay
> *Fast* Candida Mannan Antigen Assay
> *Fast* Candida IgG Antibody Assay
> *Fast* Cryptococcus Antigen Assay

Screening Tests

> TECO®Aspergillus Galactomannan Assay
> TECO®Fungus (1-3)-β-D-Glucan Assay

always your partner

TECO®Fungi product line - innovative tests for the detection of fungal infections

"It is estimated that invasive fungal infections are only diagnosed in 50% of cases during the patient's lifetime and are the most frequently overlooked causes of death in intensive care patients. The low detection rate is due, among other things, to the complexity of the diagnostics, for which clinical, radiological and microbiological findings have to be taken into account" (Lilienthal-Toal et al., 2019)

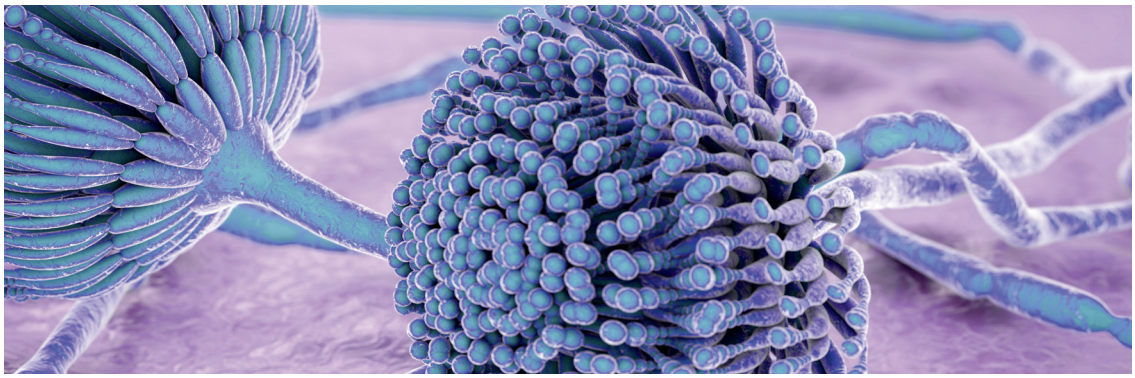
The TECO®Fungi product line includes a large number of innovative tests for the detection of a wide variety of fungal infections based on methods such as ELISA, kinetic determination and immunofluorescence tests, which can be classified as follows:

Screening procedure for routine and easy detection of fungi on microtiter plates

The screening methods are based on the detection of fungal cell wall components.

- **TECO®Aspergillus Galactomannan Assay**
  Aspergillus galactomannan is a component of Aspergillus fungi and is primarily used to detect invasive aspergillosis or to screen high-risk patients.
  ELISA with 2 patented monoclonal antibodies against galactomannan;
  simplified sample preparation without heating and centrifugation.
  Sample material: serum and bronchoalveolar lavage (BAL)

- **TECO®Fungus (1-3)-β-D-Glucan Assay**
  (1-3)-β-D-glucan is the main component of various fungi and is used as a pan marker for invasive fungal infections. Pneumocystis, Aspergillus, and Candida infections are particularly well documented. The test does not differentiate between the individual fungi.
  Kinetic test; kit assembly allows multiple approaches without loss of activity.
  Sample material: serum



Fluorescence system for quick and easy fungus diagnosis (TECO®FungiLine *Fast*)

Fast Fungus (1-3)-β-D-Glucan Assay Lateral Flow Assay
(1-3)-β-D-Glucan detection in 15 minutes
Sample material: serum and plasma

Fast Aspergillus Galactomannan Antigen Lateral Flow Assay
Aspergillus galactomannan antigen detection in 20 minutes
Sample material: serum and bronchoalveolar lavage (BAL)

Fast Aspergillus IgG Antibody Lateral Flow Assay
Detection of Aspergillus IgG in 15 minutes, Sample material: serum

Fast Candida Mannan Antigen Lateral Flow Assay
Detection of Candida Mannan antigen in 20 minutes, sample material: serum

Fast Candida IgG Antibody Lateral Flow Assay
Detection of Candida IgG in 15 minutes, sample material: serum

Fast Cryptococcus Antigen Lateral Flow Assay
Detection of Cryptococcus antigen in 20 minutes, no sample preparation step needed, sample material: Serum and CSF

Timely diagnosis and rapid treatment are life-saving

Around 80% of invasive fungal infections are caused by Aspergillus spp., Candida spp. and Cryptococcus spp. Affected patients have a poor prognosis and a high mortality rate. The timely, targeted treatment of invasive fungal infections is life-saving (see Figure 1) as well as a quick and reliable diagnosis.

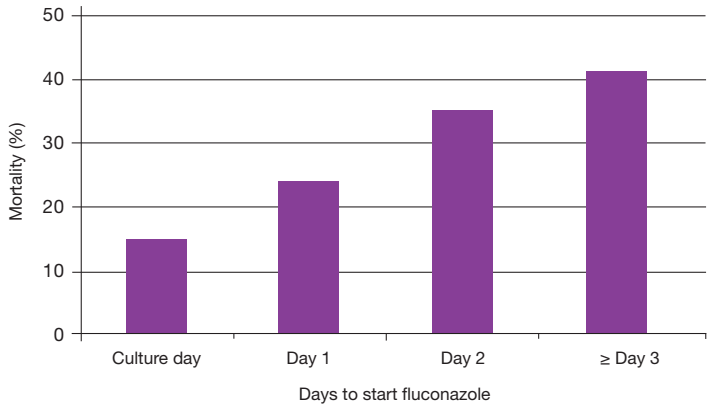


Figure 1:
Relationship between hospital mortality and the number of days to initiation of fluconazole therapy. We calculated the days to the start of fluconazole therapy by subtracting the start date of fluconazole therapy from the culture date of the first blood sample positive for yeast (Garey et al., 2006).

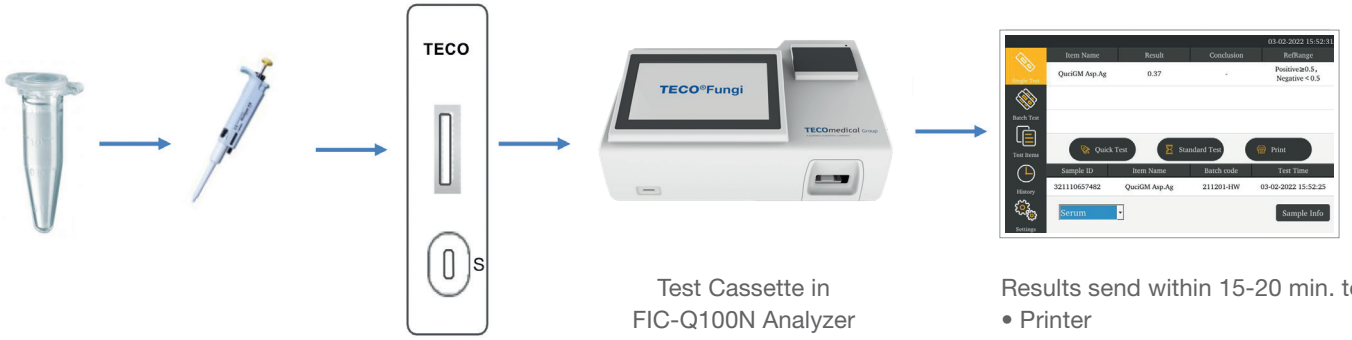
Laboratory tests are mostly used in a batch working process, which means that life-saving time can be lost. The test results of individual patients are usually available within days, depending on the number of samples. Furthermore, the sample material is also sent out to other laboratories for analysis or is not tested on weekends, which can result in additional loss of time. The TECO®FungiLine was developed to avoid this loss of time and to enable every hospital laboratory to establish fungal diagnostics.

TECO®FungiLine *Fast*

The TECO®FungiLine *Fast* consists of FIC-Q100N fluorescence analyzer and fluorescence-based rapid tests (TECO *Fast* Tests) for the detection of various fungal infections and can be established in every laboratory.

The TECO®FungiLine *Fast* is a monotest procedure and enables the quick and easy detection of invasive and non-invasive fungal infections within 30 minutes.

General test sequence from (pretreated) sample to result:



Test Cassette in
FIC-Q100N Analyzer

Results send within 15-20 min. to:

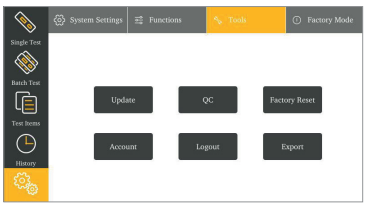
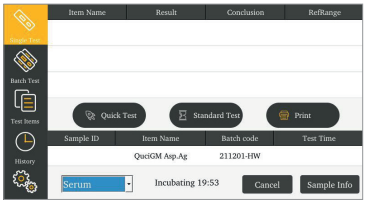
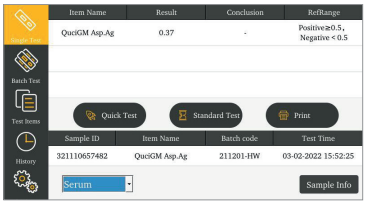
- Printer
- USB-Excel Sheet
- LIS
- Internal data storage

FungiLine FIC-Q100N Analyzer & Software

The fluorescence system with excellent sensitivity and specificity

FIC-Q100N Analyzer	Properties
	**Bench-top fluorescence analyzer for quantitative / qualitative measurement and calculation of test results** • Dimensions: 285 mm (L) x 240 mm (W) x 130 mm (H) • Weight: 2 kg • Detection unit: reliable LED / LD technology
	**Various connection options:** • LIS / LAN / RS-232 connection for direct transfer of results • 2 USB connections for barcode reader and data backup (Excel) • WiFi available
	• low maintenance: annual performance check recommended (performance check set available upon request) • standard curve import via barcode reader (QR-code based) • Loading rail for test cassette (front right)
	• Touch screen monitor • On-board printer

The fluorescence system with excellent sensitivity and specificity

FIC-Q100N Analyzer	Properties
	• User-friendly interface on touch screen monitor
	**Flexible adaptation to individual work processes:** • Instant test (without incubation on board) • Standard test (with incubation on board) **Use of different sample-specific calibration curves in one test is possible:** • Selection of different sample types (e.g. serum, BAL etc.) per test cassette
	• Objective measurement of the *Fast* Tests • 4000 results are saved on the internal card • Storage on external USB stick • Results are displayed on the screen, can be printed and / or sent to the LIS.

TECO®Fungi product line at a glance

Product	Procedure	Determination	Catalogue No.:
TECO®Aspergillus Galactomannan Assay	ELISA	Aspergillus Galactomannan antigen	TE 1067
TECO®Fungus (1-3)-β-D-Glucan Assay	Kinetic	(1-3)-β-D-Glucan	TE 1068
TECO®*Fast* Aspergillus Galactomannan Antigen (Ag) Assay	Lateral Flow	Aspergillus Galactomannan antigen	TE 1069
TECO®*Fast* Aspergillus IgG Antibody (Ab) Assay	Lateral Flow	Aspergillus IgG	TE 1070
TECO®*Fast* Candida Mannan Antigen (Ag) Assay	Lateral Flow	Candida Mannan antigen	TE 1081
TECO®*Fast* Candida IgG Antibody (Ab) Assay	Lateral Flow	Candida IgG	TE 1083
TECO®*Fast* Cryptococcus Antigen (Ag) Assay	Lateral Flow	Cryptococcus antigen	TE 1085
TECO®*Fast* Fungus (1-3)-β-D-Glucan Antigen (AG) Assay	Lateral Flow	(1-3)-β-D-Glucan antigen	TE 1088

Ref.:

von Lilienfeld-Toal M, Wagener J, Einsele H, Cornely OA, Kurzai O:
Invasive fungal infection—new treatments to meet new challenges. Dtsch Arztebl Int 2019; 116: 271–8.
DOI: 10.3238/arztebl.2019.0271

Kevin W. Garey, Milind Rege, Manjunath P. Pai, Dana E. Mingo, Katie J. Suda, Robin S. Turpin, and David T. Bearden:
Time to Initiation of Fluconazole Therapy Impacts Mortality in Patients with Candidemia:
A Multi-Institutional Study.
Clinical Infectious Diseases 2006; 43: 25–31

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