

TECO®FungiLine

Routine diagnostics for the detection of fungal diseases

TECO®Fungi product line for reliable diagnostics

TECO®FungiLine Rapid Fluorescence System

- > *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

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 PCR, 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 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

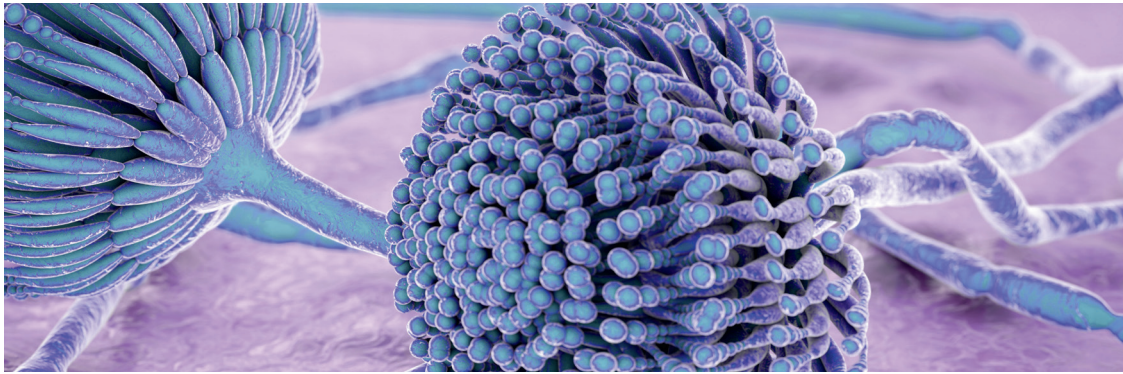
Detection of Candida IgG in 15 minutes

Sample material: serum

Fast Cryptococcus Antigen Lateral Flow Assay

Detection of Cryptococcus antigen in 20 minutes,

Sample material: Serum and CSF (no sample preparation step needed)



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.

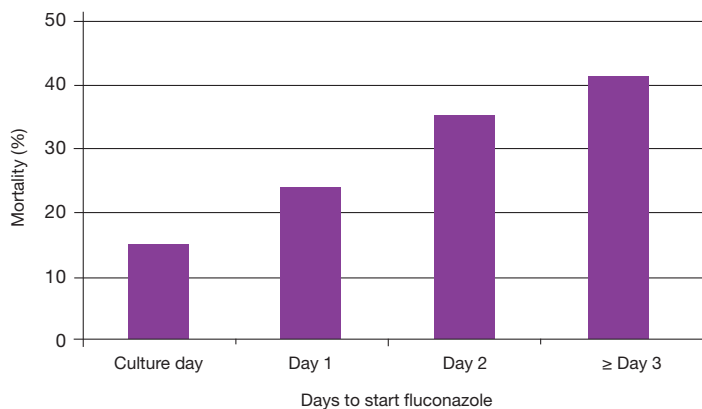


Figure 1: Relationship between hospital mortality and the number of days to initiation of fluconazole therapy. We calculated the days to the start of fluconazole therapy by subtracting the start date of fluconazole therapy from the culture date of the first blood sample positive for yeast (Garey et al.,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

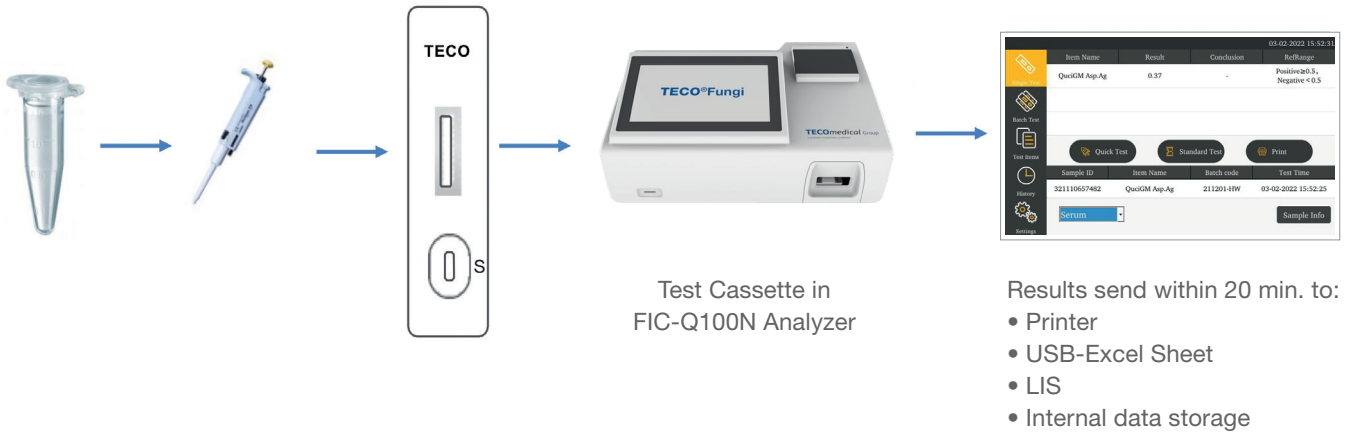
The TECO®FungiLine consists of the FIG-Q100N fluorescence analyzer and fluorescence-based rapid tests (TECO®Fast Tests) for the detection of various fungal infections and can be established in every laboratory.

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







General Test Sequence

General test sequence from (pretreated) sample to result:



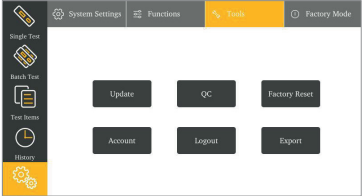
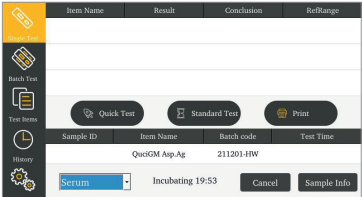
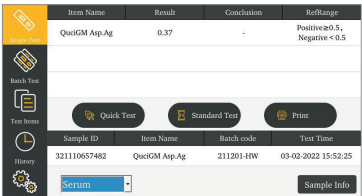
FungiLine FIC-Q100N Analyzer

The fluorescence system with excellent sensitivity and specificity

FIC-Q100N Analyzer	Properties
	<p>Bench-top fluorescence analyzer for quantitative / qualitative measurement and calculation of test results</p> <ul style="list-style-type: none"> • Dimensions: 285 mm (L) x 240 mm (W) x 130 mm (H) • Weight: 2 kg • Detection unit: reliable LED / LD technology
	<p>Various connection options:</p> <ul style="list-style-type: none"> • LIS / LAN / RS-232 connection for direct transfer of results • 2 USB connections for barcode reader and data backup (Excel) • WiFi available
	<ul style="list-style-type: none"> • low maintenance: annual performance check (set available upon request) • standard curve import via barcode reader (QR-code based) • Loading rail for test cassette (front right)
	<ul style="list-style-type: none"> • Touch screen monitor • On-board printer

FungiLine FIC-Q100N Analyzer Software

The fluorescence system with excellent sensitivity and specificity

FIC-Q100N Analyzer	Properties
	<ul style="list-style-type: none"> • User-friendly interface on touch screen monitor
	<p>Flexible adaptation to individual work processes:</p> <ul style="list-style-type: none"> • Instant test (without incubation on board) • Standard test (with incubation on board) <p>Use of different sample-specific calibration curves in one test is possible:</p> <ul style="list-style-type: none"> • Selection of different sample types (e.g. serum, BAL etc.) per test cassette
	<ul style="list-style-type: none"> • Objective measurement of the <i>Fast Tests</i> • 4,000 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

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

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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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