

# DATA SHEET

## hybcell Fungi DNA xA for Sepsis Testing



CUBE-DS-15023-V01-E  
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Fast and efficient method to determine fungal DNA in human whole blood (or other sample material) applying Cube Dx' compact sequencing and Molzym's MolYsis DNA isolation.

### Benefits



- Detection in one single reaction
- From whole blood to result in 4 hours – in combination with MolYsis
- Fast system startup for 24/7 operation also for single samples
- Fully automated sequencing
- Integrated report generation (result)

### Usage and Product Description

Cube Dx' hybcell Fungi DNA xA facilitates the diagnosis of bloodstream infections by identifying major sepsis-causing fungi or rather their DNA in human DNA extracted from whole blood.

The whole procedure is based on three steps: DNA isolation from whole blood, 28S rDNA PCR and a sequencing step (compact sequencing). DNA isolation is done with the MolYsis DNA isolation kit ([www.molzym.com](http://www.molzym.com)). Afterwards the amplification (PCR) of DNA takes place - at the same time fluorescence-labeling of the PCR product takes place. Subsequently Cube Dx' compact sequencing is applied: PCR amplicons bind to immobilized probes on the hybcell surface. In case of perfect analogy the primers are extended under influence of polymerase. Extended primers remain associated with the marked amplicon even at high washing temperatures.

Finally the hybcell is scanned and analyzed by hyborg software. The identification of fungi is done by pattern recognition of sequencing primers. A compact report is generated automatically.

hybcell protocol: hybcell Fungi DNA xA - A25 - V001   
 hybcell ID: 1619A250494  
 Sample ID:  Fungi P2  
 hybcell created: Service, 6/10/2014 3:32:42 PM  
 hybcell processed: Service, 5/15/2014 8:11:38 AM

Sample ID



hybcell ID



### Control criteria

Control	Quality
Surface control	VALID
Background Control	VALID
Primer Extension Control	VALID

### Criteria

Name	Quality
<b>Candida</b>	negative
Candida albicans	negative
Candida dubliniensis	negative
Candida glabrata	negative
Candida parapsilosis	negative
Candida tropicalis	negative
<b>Pichia</b>	negative
Candida krusei (Issatchenkia sp.)	negative
<b>Aspergillus</b>	negative
Aspergillus fumigatus / clavatus	negative
Aspergillus flavus	negative
<b>Other</b>	
Cryptococcus sp.	negative
Trichophyton sp.	negative
Saccharomyces cerevisiae	positive

Reported results.

**Sample volume:** 5 µL (eluate of MoLYsis kit)

**Analysis system:** hyborg Dx RED

**Test duration:** DNA preparation 120 minutes (from whole blood), PCR 90 minutes, compact sequencing 30 minutes.

**Throughput:** First sample approx. 4 hours (any following sample takes additional 30 minutes)

**Kit contents:** material for 12 tests



hybcell Core.

**Shipping and storage:** hybcells can be shipped and stored at room temperature (8 to 25 °C) with a shelf life of 24 months. Some components have to be shipped frozen and must be stored at -15 to -25 °C (for maximum 24 months).

**Order number:** HC0420-12

## Specification

Limit of Detection LOD: 60 fg

Tested DNA references	
Product name	Reference no.
<i>Aspergillus fumigatus / clavatus (ATCC)</i>	ATCC-1022D-2, ATCC-1007D-2
<i>Aspergillus flavus (ATCC)</i>	ATCC-204304D-2
<i>Candida albicans (ATCC)</i>	ATCC-11006D-5
<i>Candida parapsilosis (ATCC)</i>	ATCC-22019D-5
<i>Candida tropicalis (ATCC)</i>	ATCC-MYA-3404D-5
<i>Candida glabrata (ATCC)</i>	ATCC-2001D-5
<i>Issatchenkia orientalis (Candida krusei) (ATCC)</i>	ATCC-6258D-5
<i>Trichophyton sp. (ATCC)</i>	ATCC-9533D-2
<i>Cryptococcus sp. (ATCC)</i>	ATCC-MYA-565D-5
<i>Saccharomyces cerevisiae (Molzym)</i>	S-200-050