

# Evaluation of the new CHORUS Aspergillus galactomannan Ag assay in the diagnosis of aspergillosis

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## INTRODUCTION

The development of new diagnostic assays, useful to detect as soon as possible Invasive Fungal Infections (IFI) using non-culture based biomarkers, is of detrimental importance for the management of patients affected by aspergillosis and for a prompt treatment.

Currently, the gold standard test for aspergillosis relies on the detection of the *Aspergillus* galactomannan antigen by the PLATELIA™ Aspergillus Ag (Bio-Rad) assay, based on a sandwich enzyme-linked immunosorbent assay (ELISA) microtiter plate.

The aim of this study has been the comparison between the PLATELIA™ Aspergillus Ag (Bio-Rad) assay and the new immune-enzymatic monotest cartridge based system CHORUS Aspergillus Galactomannan Ag (DIESSE Diagnostica Senese).

## MATERIALS AND METHODS

We studied 112 samples (94 serum and 20 BronchoAlveolar Lavage - BAL) collected from patients with proven or probable invasive aspergillosis.

The predefined CHORUS cut-off parameters of 1.1 for positive, <0.9 for negative and 0.9 - 1.1 for undetermined values were applied for the results evaluation and all the samples were tested in parallel with the PLATELIA™ Aspergillus Ag assay along with the culture when available.

CHORUS monotest system (DIESSE)



VS

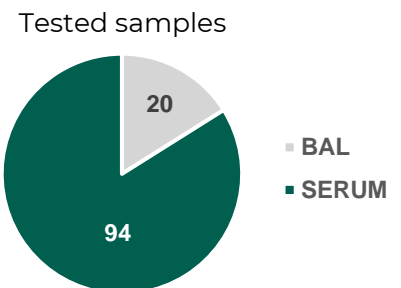
Microplates PLATELIA™ (Bio-Rad)



## RESULTS

Overall, 100% of positive serum samples and 93.7% of positive BAL samples tested by the CHORUS assay had a comparable measurement with PLATELIA™.

Regarding negative samples tested by CHORUS assay, 98% of agreement was obtained in comparison to PLATELIA™ assay.



BAL SAMPLES	CHORUS/ Platelia	Accuracy (%)
True positive	15/16	93.75
True negative	3/4	98
SERUM SAMPLES	CHORUS/ Platelia	Accuracy (%)
True positive	6/6	100
True negative	87/88	98

## CONCLUSIONS

The results obtained from the comparison between the two tests suggest that the CHORUS assay might be reliably used to detect galactomannan antigen in patients with IFI.

Moreover, the DIESSE CHORUS Aspergillus Galactomannan Ag test is fast (2.5 hours) and easy to use due to its full automatization and the individual processing of the samples, being a valid alternative for the diagnosis of invasive aspergillosis.

## BIBLIOGRAPHY

D.Stynen, J.Sarfati, A.Goris, M.C. Prevost, M.Lesourd, H.Kamphuis, V.Darras, J.P. Latge - Rat Monoclonal Antibodies against Aspergillus Galactomannan. Infect. Immun, June 1992. Vol 60: p.2237-2245