# DIAGNOSTIC ACCURACY OF A NOVEL MICROBLOT ARRAY IN THE DETECTION OF MYOSITIS-ASSOCIATED AUTOANTIBODIES: PRELIMINARY DATA

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## BACKGROUND AND AIMS

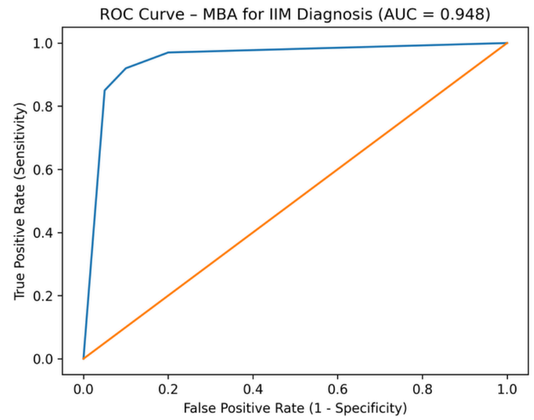
Indirect immunofluorescence (IIF) still represents the reference method for the detection of antinuclear antibodies (ANA) in the diagnosis of systemic autoimmune diseases. However, the detection of these autoantibodies by IIF suffers from limited specificity, operator subjectivity, and the need for confirmation tests. A recently introduced multiplex microblot array (MBA, TestLine, Brno, CZ) enables the simultaneous detection of 43 autoantibodies, including myositis-specific (MSA) and myositis-associated (MAA) antibodies. The aim of this study was to evaluate the analytical reproducibility of MBA and its diagnostic accuracy in patients with idiopathic inflammatory myositis (IIM).

## METHODS

A total of 292 sera were tested for ANA on HEp-2 cells (Inova, S. Diego, CA) and by MBA, including 39 patients affected by IIM (mean age 48.3 years, 24 females). Two serum pools were also tested ten times in two sessions to assess repeatability.

## RESULTS

ANA-HEp-2 at a titer >1:80 were positive in 32/39 IIM patients, while MBA detected MSA in 36/39 patients, with 0.69 (95% CI 0.49–0.81) concordance. MBA was positive in seven of the non-IIM sera. ROC curve analysis revealed an area under the curve (AUC) of 0.948, with 92.3% sensitivity and 97.2% specificity. Inter-assay coefficients of variation were 0.06% for Ro52 and La, 2.9% for Ro60, and 26.8% for Jo1.




| Parameter | Result |
|---|---|
| IIM patients | 39 |
| MBA positive | 36 / 39 |
| Sensitivity | 92.3% |
| Specificity | 97.2% |
| AUC (ROC) | 0.948 |

## CONCLUSIONS

In patients with IIM, MBA demonstrated high diagnostic accuracy, suggesting that in these patients a single-step laboratory approach may be sufficient. The coefficients of variation were excellent for Ro52 and La, while improvement is needed for anti-Jo1.