

Anti-Dense Fine Speckles 70 (DFS70): Marker of Non-Systemic Autoimmune Rheumatic Diseases

Clinical Usefulness

- Confirm that anti-DFS70 antibodies associated pattern (DFS), as a positive ANA by IFA test, may not be related with systemic autoimmune rheumatic diseases
- Increase disease specificity of ANA by IFA and ENA testing

The presence of anti-nuclear antibodies (ANA) and antibodies to extractable nuclear antigens (ENA) is a “hallmark” of systemic autoimmune rheumatic diseases (SARD).^{1,2,3} The indirect immunofluorescence assay (IFA) on HEp-2 cells was recently recommended as the ANA screening test of choice by a task force of the American College of Rheumatology¹ and the International Consensus on ANA patterns (ICAP).⁴ However, it was reported that up to 20% of serum samples from healthy individuals have been reported to have a positive ANA test and that the majority of these positive ANAs are caused by antibodies directed against dense fine speckles 70 (DFS70) antigen.³⁻⁵ Even more important, the DFS IFA pattern has been reported in 33% of ANA positive healthy individuals, but not in ANA positive SARD patients.⁶ Since the intended use of the ANA HEp-2 test is to aid in the diagnosis of SARD, the reporting of isolated anti-DFS70 antibodies and their associated pattern (DFS) as a positive test greatly reduces the post-test probability of a systemic autoimmune rheumatic disease.³ This has significant implications for diagnostic algorithms involving the detection of ANA and autoantibodies to other extractable nuclear antigens (ENA).³ Therefore, IFA patterns which indicate the presence of anti-DFS70 antibodies should be verified with a specific assay for the detection of anti-DFS70 antibodies.^{7,8}

Description of Nuclear Dense Fine Speckled⁹:

The ICAP description of DFS is: Speckled pattern distributed throughout the interphase nucleus with characteristic heterogeneity in the size, brightness and distribution of the speckles. Throughout the interphase nucleus, there are some denser and looser areas of speckles (very characteristic feature). The metaphase plate depicts strong speckled pattern with some coarse speckles standing out.

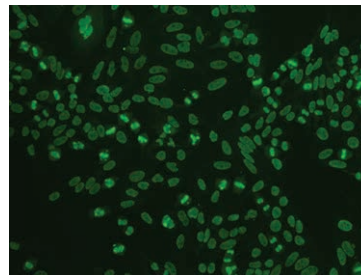


Photo courtesy of Dr. Vincent Ricchiuti, Labcorp.
HEp-2 cells, DFS pattern, dilution 1:640.

Relevant Assays

Test Name	Test No.
Anti-Dense Fine Speckled Protein 70 kDa (DFS70) Ab	520313
Anti-ENA6 Plus DFS70 Ab Profile	520301

References

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