

# Anti-DFS70 (Dense Fine Speckled 70kDa): A Novel Marker Associated With Absence of Systemic Autoimmune Rheumatic Disease (SARD)

## Clinical usefulness of Anti-DFS70 Antibodies

- Is a monospecific immunoassay\* that confirms the dense fine speckled (DFS) pattern observed on ANA by IFA with HEp-2 cells<sup>1</sup>
- Helps identify individuals who do not have an ANA-associated autoimmune rheumatic disease, especially in the absence of significant clinical findings<sup>2</sup>
- May be used with SARD-specific autoantibodies to include or exclude SARD (see other side)<sup>2,3</sup>

- Antinuclear antibodies (ANA) detected by indirect immunofluorescence assay (IFA) on human epithelial HEp-2 cells are considered the “hallmark” of autoimmune rheumatic disease<sup>4,5</sup>
- At the same time, ANA positivity is not specific; a positive ANA does not necessarily indicate autoimmune disease nor the likelihood of developing one<sup>5</sup>
- Positive ANA may occur in 13-25% of healthy individuals who do not have a SARD and who are unlikely to develop one, even out to 4 years<sup>5,6</sup>

**Anti-Dense Fine Speckled 70kDa (DFS70) Antibodies** is a new marker that occurs in individuals with no evidence of active systemic autoimmune disease.

## Anti-DFS70 Antibodies

- Are associated with the absence of SARD, especially when SARD-specific autoantibodies are negative<sup>2,5</sup>
- Cause the nuclear Dense Fine Speckled (DFS) pattern on IFA<sup>1,2</sup>
- Are more frequent (2-22%) in healthy individuals than in patients with autoimmune rheumatic disease (less than 1%)<sup>2</sup>
- Account for 33-54% of ANA positivity in healthy individuals<sup>4,7</sup>
- Target the dense fine speckled protein of 70kDa which is identical to lens epithelium-derived growth factor or transcription co-activator p75 (LEDGF/p75)<sup>2,8</sup>
- Are of unknown clinical significance<sup>2,8</sup>

## International Consensus on ANA Patterns (ICAP) description of nuclear Dense Fine Speckled pattern:

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.<sup>9</sup>

\*Correlation between this monospecific anti-DFS70 immunoassay and the DFS pattern on IFA has been confirmed as >90%<sup>10</sup>

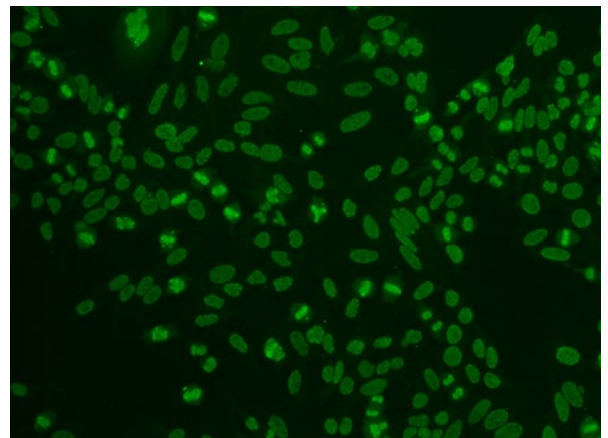


Photo courtesy of Dr. Vincent Ricchiuti, Labcorp.  
HEp-2 cells, DFS pattern, dilution 1:640.

# Anti-ENA6 Plus DFS70 Profile: Include or Exclude Systemic Autoimmune Rheumatic Disease (SARD)

**Clinical usefulness of Positive Anti-DFS70 in isolation** (i.e., in the absence of anti-ENA and other SARD-specific autoantibodies)

- Helps identify individuals who do not have an ANA-associated rheumatic disease, especially in the absence of significant clinical findings<sup>2</sup>
- Confers a likelihood ratio for the absence of autoimmune rheumatic disease of 10.9<sup>3</sup>
- Accounts for approximately 5% of positive, even high titer ANA and is rarely associated with active rheumatic disease<sup>8</sup>

## Anti-Extractable Nuclear Antigens (ENA) 6 Plus Anti-Dense Fine Speckled 70kDa (DFS70) Antibodies Profile

- Detects seven clinically useful autoantibodies to ENA\*\*
- Contains the novel anti-DFS70 (see opposite side)
- May help identify systemic lupus erythematosus (SLE), mixed connective tissue disease (MCTD), Sjögren syndrome (SjS), systemic sclerosis, and idiopathic inflammatory myopathy (IIM)
- Contributes to the inclusion or exclusion of these ANA-associated autoimmune rheumatic diseases (AARD)<sup>3</sup>

Component	Clinical Associations
<b>Anti-DFS70</b>	Isolated anti-DFS70 positivity in the absence of connective tissue disease-associated autoantibodies may help correctly identify individuals who do not have an AARD <sup>3</sup>
<b>Anti-Sm</b>	Positive in 20-30% of SLE; highly specific for SLE <sup>11</sup>
<b>Anti-U1 RNP</b>	Positive in 95-100% of MCTD, usually in high titers <sup>12,13</sup> Positive in 30-40% of SLE, commonly accompanied by anti-Sm antibodies <sup>12</sup>
<b>Anti-Ro (SS-A)</b>	Positive in 60-95% of SjS and 30-40% of SLE <sup>11</sup>
<b>Anti-La (SS-B)</b>	Positive in 40-90% of SjS and 10-15% of SLE <sup>11</sup>
<b>Anti-Scl-70</b>	Positive in 20-40 % of scleroderma <sup>13</sup>
<b>Anti-Jo-1</b>	Positive in 20-30% of adult myositis <sup>11,14</sup>

## Relevant Assays

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

## References

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\*\*ENA are a heterogeneous subset of cellular antigens including ribonucleoproteins that can be extracted from cell nuclei with saline.