

Extractable Nuclear Antigens (ENA) Panel

Multiplex screening of Autoimmune Diseases

AUTOIMMUNE CONNECTIVE TISSUE DISEASES ARE HETEROGENEOUS AND SYMPTOMATICALLY COMPLEX

Autoimmune Connective Tissue Diseases (ACTD) are a group of conditions characterized by multi-organ inflammation affecting between three to five percent of the global population (1). These chronic diseases can be life threatening and share common symptoms: joint aches and pains, fatigue, muscle pain, weakness, skin rashes and inflammation of organs (2). The algorithm for diagnosis of ACTD is based on scores derived from physical symptoms and detection of autoantibodies to nuclear antigens (3)

THE ANTI-NUCLEAR ANTIBODY (ANA) TEST

The standard laboratory test for ANA testing is indirect immunofluorescent (IIF) staining of Hep-2 cells. ANA testing by IIF is technically laborious and the results are open to subjective interpretation by the technician and it has been difficult to standardize the protocol due to variations in substrate and sample processing between laboratories (4). The ANA screen as an ELISA test was introduced into clinical practice to permit an evaluation of the presence of antibodies to any extractable nuclear antigen before performing individual tests (5). ANA positive samples are then tested for binding to specific autoantigens by ENA ELISA.

CONDITIONS ASSOCIATED WITH POSITIVE ANA TEST RESULTS

Disease	Frequency of Positive ANA Result (%)	Specificity of autoantigen
Systemic lupus erythematosus	45-85	dsDNA
Systemic lupus erythematosus	95-100	Sm
Sjogren's Syndrome	40-70	SSA and SSB
Systemic sclerosis (scleroderma)- limited	60-80	CENP B
Systemic sclerosis (scleroderma)- diffuse	60-80	Scl70
Dermatomyositis or polymyositis	30-80	Jo1
Mixed connective tissue disease	~100	RNP



From: Guidelines for Clinical Use of the ANA Test and Tests for Specific Autoantibodies to Nuclear Antigens. Kavanaugh et al. Arch Pathol Lab Med. 2000 124: 71-81



Easy and Accurate Multiple Tests From a Single Drop of Blood

One Test For Nine Antigens Associated With ACTD

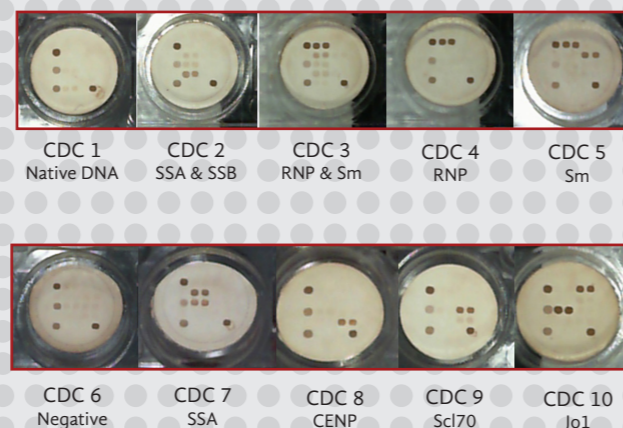
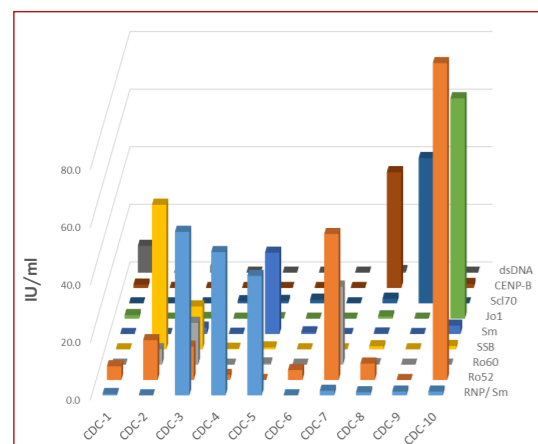


 RNP/ Sm	 SSB	 Scl70
 SSA (Ro60)	 Jo1	 CENP-B
 SSA (Ro52)	 Sm	 dsDNA

In contrast to traditional ELISA, PictArrays enable the identification of specific autoantibodies to nine nuclear antigens in a single test (6). PictArrays work on the principle of ELISA in which IgG antibodies from patient serum binds to nuclear antigens attached to the test surface. A positive ANA is deemed to be present if one or more of the autoantibody specificities are present.

PictArrays Can Accurately Detect Autoantibodies to Nuclear Antigens

PictArrays were assessed using a panel of reference serum samples provided by the Arthritis Foundation/ Centers for Disease Control in the United States. Results from each of the ten samples accurately matched the results obtained using IIF.



Bibliography

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ENA PANEL

Notes

1 >>>

SIMPLE



2 >>>

AFFORDABLE



3 >>>

ACCURATE

