Laboratory Medicine Update

February 26th, 2020

Anti-Cellular Antibody Testing

We are notifying you that on Monday the 26th of February 2020, the Special Immunochemistry Section of the Clinical Biochemistry Laboratory at the Health Science Center will begin a new testing process for Anti-Cellular Antibodies (ACA panel) that will replace previous testing strategies for antinuclear antibodies (ANA) and extractable Nuclear antigen antibodies (ENA). The new testing process will consist of screening by HEp2-IIFA (the previous ANA procedure) with reflexive testing of all positives by a 17 antigens panel for Specific Anti-Cellular Antibodies (an expanded menu that includes traditional ENA tests plus dsDNA and others).

One orderable test will be available:

Test Name	Aliases	Provincial Mnemonic
Anti-Cellular Antibodies (ACA panel)	Anti-Nuclear Antibody (ANA) and Extractable Nuclear Antigen Antibodies (ENA); HEp2-IIFA and Specific Anti-Cellular Antibody; List of autoantibody: dsDNA, Nucleosome, Histone, SmD1, PCNA, P0, SSA/Ro60kD, SSA/Ro52kD, SSB/La, CENP-B, Scl70, U1-snRNP, AMA M2, Jo-1, PM-Scl, Mi-2, and Ku.	ACABP

Testing for the ACA panel will normally be performed twice a week. Approval for STAT requests require approval by the clinical biochemist on-call. The 17 antigens panel for Specific Anti-Cellular Antibodies will only be reflexed upon HEp2-IIFA positivity, please refer to the workflow algorithm below. Separate ordering of Specific Anti-Cellular Antibodies are rarely required and will be orderable separately only by Rheumatologist or by the clinical biochemist approval of a filled LTSA form.

Differential diagnostic investigation of connective tissue diseases by ACA Panel testing in Adults (≥18 years).

Detection of autoantibodies through the new ACA panel is a diagnostic adjunct in patients with suspected connective tissue disease (CTD). Such CTD patients typically present with at least one of the following findings unexplained by other causes: arthritis, pleurisy or pericarditis, photosensitive rash, laboratory evidence of renal or hepatic disorder, hemolytic anemia, immune thrombocytopenia or neutropenia, skin changes of scleroderma, dermatomyositis or vasculitis, clinical and laboratory evidence of myositis, Raynaud's phenomenon, recurrent thrombosis or late miscarriage, and neurologic signs. In the absence of such symptoms and signs, a positive result for any ACA panel autoantibody can confound the diagnosis because autoantibodies are also found in the healthy population.

In general, the ACA panel testing need only be ordered once and is not indicated unless a CTD is a significant clinical possibility. Negative ACA panel results rarely need to be repeat except when there is a strong suspicion of an evolving CTD or a change in the patient's illness suggesting revision of diagnosis. Although the higher the titer positivity the more likely that a CTD is present, there is no role for serial monitoring of positive ACA tests since changes in titer do not correlate with disease activity. An exception to this is the monitoring of systemic lupus erythematosus (SLE) patients and only through measurement of dsDNA autoantibody levels which is used for the prediction of an increased risk of lupus nephritis. Measurement of dsDNA autoantibody should be made through specific request for this test and completion of a LTSA form.

ACA panel testing is not indicated as a screening test to evaluate fatigue, back pain, or other musculoskeletal pain without other clinical indications. It is also not indicated to confirm a diagnosis of rheumatoid arthritis or osteoarthritis

Tier 1: HEp2-IIFA screen:

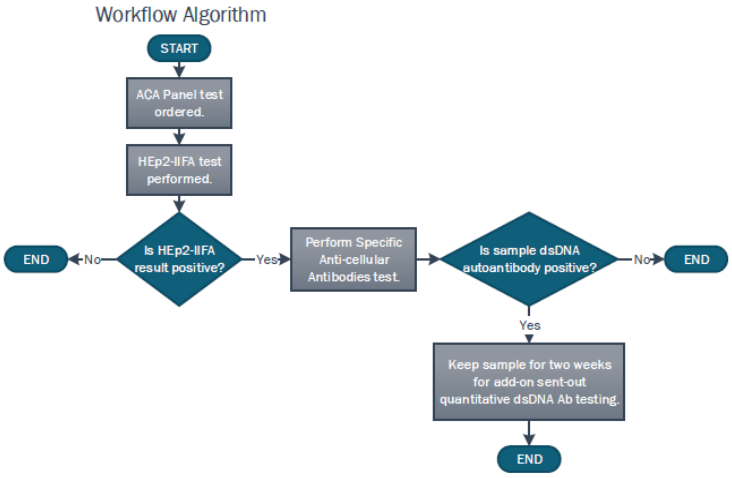
Tier 1 of the ACA panel consists of examination of ACA patterns by HEp2-IIFA testing system utilizing an indirect immunofluorescence assay. ACA patterns are used primarily for differential diagnostic screening for connective tissue diseases. Based on recommendations from The International Consensus on ANA patterns (ICAP) new nomenclature and reporting processes have been implemented. Briefly, ANA testing is now renamed HEp2-IIFA testing, which we offer through the ACA panel. Reported results is now comprised of: Titer positivity, Anti-Cellular pattern code and definition, and disease associated (e.g. Nuclear Homogenous (AC-1). Positive up to a 1:320 titer. Disease associated: Systemic lupus erythematosus (SLE), drug-induced SLE and juvenile idiopathic arthritis.).

Titer positivity cutoff for pediatric population (<18 years) is 1:80 and for adult (≥18 years) is 1:160. A comprehensive list of Anti-Cellular autoantibody pattern codes, definitions and diseases are available on request.

Tier 2: Specific Anti-Cellular Antibody:

Tier 2 of the ACA Panel, Specific ACAs, is only performed when Hep2-IIFA is positive and it consists of a membrane based enzyme immunoassay qualitative testing system utilizes a membrane strip having specific antigens spotted on it to screen for 17 different specific ACAs. Specific ACAs testing is an important tool for the differential diagnosis of connective tissue disease. Reported results will be comprised of: the Autoantibodies screen for and their status (reported as negative, equivocal or positive result) and when positive will include a corresponding comment including disease associated information (e.g. Jo-1 Ab: Negative, Histone Ab: equivocal, dsDNA Ab: positive. If quantitative dsDNA testing is required contact the laboratory 777-6474 to add-on the sent-out test. Specimen will be kept for a 2 weeks period. Disease associated: Systemic lupus erythematosus.). A comprehensive list of specific ACAs screened for and their disease association are available on request.

Please note that if quantitative dsDNA testing is required upon dsDNA positivity reported from the ACA panel contact the laboratory 777-6474 to add-on the sent-out test. The sample will be kept for a 2 weeks period. Isolated order is restricted to rheumatology. Otherwise, the clinical biochemist approval of a filled LTSA form is required.



Reference

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