Overview

Useful For
Evaluating patients suspected of having ANCA-associated vasculitis (granulomatosis with polyangiitis and microscopic polyangiitis, and eosinophilic granulomatosis with polyangiitis)

Method Name
Indirect Immunofluorescence

NY State Available
Yes

Specimen

Specimen Type
Serum

Additional Testing Requirements
When used for diagnosis, it is recommended that specific tests for proteinase 3, antineutrophil cytoplasmic antibodies (ANCA), and myeloperoxidase ANCA be performed in addition to testing for cANCA and pANCA.[1] This panel of tests is available by ordering the VASC / Antineutrophil Cytoplasmic Antibodies Vasculitis Panel, Serum.

Specimen Required
Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.8 mL

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- General Request (T239)
- Renal Diagnostics Test Request (T830)

Reject Due To

Gross hemolysis Reject
Gross lipemia Reject
Gross icterus OK
Heat-treated specimen Reject

Specimen Minimum Volume
0.4 mL

Specimen Stability Information
Clinical Information
Antineutrophil cytoplasmic antibodies (ANCA) can occur in patients with small blood vessel vasculitis including granulomatosis with polyangiitis (GPA), microscopic polyangiitis (MPA), or eosinophilic granulomatosis with polyangiitis (EGPA), collectively referred to as ANCA-associated vasculitis (AAV). (2) Detection of ANCA is a well-established diagnostic test for the evaluation of patients suspected of having AAV. (3) ANCA react with enzymes in the cytoplasmic granules of human neutrophils including proteinase 3 (PR3), myeloperoxidase (MPO), elastase, and cathepsin G amongst others. Of these, PR3-ANCA and MPO-ANCA are the best characterized in AAV. Antibodies to PR3-ANCA occur in patients with GPA and produce a characteristic pattern of granular cytoplasmic fluorescence on ethanol-fixed neutrophils called the cANCA pattern. Antibodies to MPO-ANCA occur predominately in patients with MPA and produce a pattern of perinuclear cytoplasmic fluorescence on ethanol-fixed neutrophils called the pANCA pattern. (4) EPGA may be pANCA positive with reactivity to MPO-ANCA or negative for ANCA. The pANCA pattern may also be observed in patients with inflammatory bowel disease, predominantly ulcerative colitis, usually in the absence of detectable MPO-ANCA reactivity.

Reference Values
Negative
If positive for antineutrophil cytoplasmic antibodies, results are titered.

Interpretation
Positive results for antineutrophil cytoplasmic antibodies (ANCA) demonstrate two main patterns namely; cytoplasmic (cANCA) and perinuclear (pANCA) in a compendium of small vessel vasculitis collectively referred to as ANCA-associated vasculitis (AAV) that includes granulomatosis with polyangiitis, microscopic polyangiitis, eosinophilic granulomatosis with polyangiitis.
Negative ANCA results do not rule out a diagnosis of AAV or irritable bowel disease.

Cautions
Current recommendations suggest that testing for antineutrophil cytoplasmic antibodies (ANCA) by indirect immunofluorescence assay should not be relied upon exclusively to establish the diagnosis of granulomatosis with polyangiitis (GPA), microscopic polyangiitis, or eosinophilic granulomatosis with polyangiitis (see Interpretation). Due to their lack of diagnostic specificities, all positive ANCA results must be confirmed using solid-phase immunoassays using PR3-ANCA (cANCA) and MPO-ANCA (pANCA).
Changes in titer of cANCA should not be relied upon exclusively to judge the disease activity of patients with GPA or to determine the response to treatment. A decreasing titer of CANCA may lag behind the induction of clinical remission by several weeks in a patient with GPA, and a detectable titer of cANCA may persist indefinitely despite induction of a stable clinical remission of disease. Conversely, a slight increase in the titer of cANCA should not be interpreted to mean an exacerbation of disease without further clinical and laboratory evidence of disease progression.

Clinical Reference
Test Definition: ANCA
Cytoplasmic Neutrophilic Ab, S


Performance

Method Description
Antibodies to cytoplasmic antigens in neutrophils are detected by an indirect immunofluorescent technique. Commercial and in-house slides prepared from human neutrophils are used as a substrate. IgG antibodies in serum specimens are detected after incubation of serum with the commercial and in-house slides by the addition of a fluorescein isothiocyanate (FITC)-labeled antihuman IgG reagent. All patient specimens are initially screened at 1:4 and 1:8 dilutions. (Package insert: NOVA Lite ANCA. Inova Diagnostics, Inc; 5/2018)

PDF Report
No

Specimen Retention Time
14 days

Performing Laboratory Location
Rochester

Fees & Codes

Test Classification
This test was developed, and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the US Food and Drug Administration.

CPT Code Information
86036
86037-Titer (if appropriate)