

## Overview

### Useful For

Antineutrophil cytoplasmic antibodies (cANCA and pANCA):

-Evaluating patients suspected of having autoimmune vasculitis (both Wegener granulomatosis [WG] and microscopic polyangiitis)

cANCA titer:

-May be useful for monitoring treatment response in patients with WG (systemic or organ-limited disease); increasing titer suggests relapse of disease, while a decreasing titer suggests successful treatment

### Method Name

IndirectImmunofluorescence

### NY State Available

Yes

## Specimen

### Specimen Type

Serum

### Additional Testing Requirements

When used for diagnosis, it is recommended that specific tests for proteinase 3 (PR3) ANCA and myeloperoxidase (MPO) 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 a [General Request](#) (T239) with the specimen.

### Specimen Minimum Volume

0.4 mL

### Reject Due To

Hemolysis	Mild OK; Gross reject
Lipemia	Mild OK; Gross reject
Icterus	Mild OK; Gross OK

Other	NA
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### Specimen Stability Information

Specimen Type	Temperature	Time
Serum	Refrigerated (preferred)	14 days
	Frozen	14 days

### Clinical and Interpretive

#### Clinical Information

Antineutrophil cytoplasmic antibodies (ANCA) can occur in patients with autoimmune vasculitis including Wegener granulomatosis (WG), microscopic polyangiitis (MPA), or organ-limited variants thereof such as pauci-immune necrotizing glomerulonephritis.(2) Detection of ANCA is a well-established diagnostic test for the evaluation of patients suspected of having autoimmune vasculitis. ANCA react with enzymes in the cytoplasmic granules of human neutrophils including proteinase 3 (PR3), myeloperoxidase (MPO), elastase, and cathepsin G. Antibodies to PR3 occur in patients with WG (both classical WG and WG with limited end-organ involvement) and produce a characteristic pattern of granular cytoplasmic fluorescence on ethanol-fixed neutrophils called the cANCA pattern. Antibodies to MPO occur predominately in patients with MPA and produce a pattern of perinuclear cytoplasmic fluorescence on ethanol-fixed neutrophils called the pANCA pattern.

#### Reference Values

Negative

If positive for antineutrophil cytoplasmic antibodies, results are titered.

#### Interpretation

Positive results for antineutrophil cytoplasmic antibodies (cANCA or pANCA) are consistent with the diagnosis of Wegener granulomatosis (WG), either systemic WG with respiratory and renal involvement or limited WG with more restricted end-organ involvement. Positive results for pANCA are consistent with the diagnosis of autoimmune vasculitis including microscopic polyangiitis (MPA) or pauci-immune necrotizing glomerulonephritis. Sequential measurements of titers of cANCA may be useful to indicate the clinical course of patients with WG. Changes in titer of 2 or more serial dilutions are considered significant.(3) In patients with very low levels of cANCA, the immunofluorescent staining pattern may mimic the pANCA pattern. In patients with MPA, monitoring of disease activity may be performed by measuring MPO ANCA (MPO / Myeloperoxidase Antibodies, IgG, Serum).

#### Cautions

Current recommendations suggest that testing for antineutrophil cytoplasmic antibodies (ANCA) by immunofluorescence assay should not be relied upon exclusively to establish the diagnosis of Wegener granulomatosis (WG) or microscopic polyangiitis (MPA) (see Interpretation).

Results for cANCA testing are titered if positive (1:4, 8, 16, 32, etc). If positive for pANCA, results are reported as positive. Changes in titer of cANCA should not be relied upon exclusively to judge the disease activity of patients with WG 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 WG 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.

The presence of an antinuclear antibody may mimic a pANCA on ethanol-fixed neutrophils.

### Clinical Reference

1. Savige J, Gillis D, Benson E, et al: International consensus statement on testing and reporting of antineutrophil cytoplasmic antibodies (ANCA). Am J Clin Pathol 1999;111;507-513
2. Russell KA, Wiegert E, Schroeder DR, et al: Detection of anti-neutrophil cytoplasmic antibodies under actual clinical testing conditions. Clin Immunol 2002;103;196-203
3. Specks U, Homburger HA, DeRemee RA: Implications of cANCA testing for the classification of Wegener's Granulomatosis: performance of different detection systems. Adv Exp Med Biol 1993;336;65-70

### 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. San Diego, CA, 5/2018)

#### PDF Report

No

#### Day(s) and Time(s) Test Performed

Monday through Saturday; 11 a.m.

#### Analytic Time

2 days

#### Maximum Laboratory Time

4 days

#### Specimen Retention Time

14 days

#### Performing Laboratory Location

Rochester

### Fees and Codes

#### Fees

- Authorized users can sign in to [Test Prices](#) for detailed fee information.
- Clients without access to Test Prices can contact [Customer Service](#) 24 hours a day, seven days a week.
- Prospective clients should contact their Regional Manager. For assistance, contact [Customer Service](#).

#### Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with

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CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

86255

86256 (if appropriate)

**LOINC® Information**

Test ID	Test Order Name	Order LOINC Value
ANCA	Cytoplasmic Neutrophilic Ab, S	87427-1

Result ID	Test Result Name	Result LOINC Value
3114	c-ANCA	35279-9
3119	p-ANCA	17357-5