Client: Example Client ABC123
123 Test Drive

UNITED STATES

Physician: Doctor, Example

Patient: Patient, Example

DOB

Sex:

Patient Identifiers: 01234567890ABCD, 012345

Visit Number (FIN): 01234567890ABCD

Collection Date: 01/01/2017 12:34

Paraneoplastic Pemphigus (Paraneoplastic Autoimmune Multiorgan Syndrome) Antibody Screening Panel

ARUP test code 0092107

Paraneoplastic Pemphigus Ab Screen

See Note

CLINICAL INFORMATION
Polymorphic lesions, some annular and targetoid, undergoing evaluation for lymphoma.

Specimen Details
S22-IP0000518 - Serum; Collected: ; Received:

DIAGNOSTIC INTERPRETATION

Negative IgG paraneoplastic pemphigus antibodies on rodent substrates

(See Results and Comments including further testing considerations)

RESULTS
Indirect Immunofluorescence (IIF)

Paraneoplastic Pemphigus IgG Antibodies

IgG: Negative, rat bladder substrate (cell surface)
Negative, rat bladder substrate (basement membrane zone)

Negative, mouse bladder substrate (cell surface)
Negative, mouse bladder substrate (basement membrane zone)

Negative, mouse heart substrate (intercalated discs)
Negative, mouse liver substrate (portal tracts)

Reference Range:
Negative - Titer less than 1:5
Borderline - Titer 1:5
Positive (H) - Titer greater than 1:5

Negative, monkey esophagus substrate (cell surface)
Negative, monkey esophagus substrate (basement membrane zone)

H=High, L=Low, *=Abnormal, C=Critical

Reference Range:
Negative - Titer less than 1:10
Borderline - Titer 1:10
Positive (H) - Titer greater than 1:10

(H) = high/positive

COMMENTS

Specific

IgG paraneoplastic pemphigus antibodies to rat bladder, mouse bladder, mouse heart, and mouse liver substrates are not detected in this serum by indirect immunofluorescence. These findings do not provide support for, but do not rule out, the diagnosis of paraneoplastic pemphigus.

Clinical correlation is needed, including with direct immunofluorescence findings on a biopsy specimen, histopathological examination of formalin-fixed tissue, and other serum epithelial antibodies. Notably, various serum epithelial antibodies may be found in paraneoplastic pemphigus and other paraneoplastic presentations by various tests with differing sensitivities.

To further evaluate the immunopathological profile in the serum from this patient, additional testing may be performed on this specimen by contacting ARUP Client Services, 1-800-242-2787, option 2, with add-on test request(s) for:
- Pemphigus Antibody Panel, IgG (ARUP test number 0090650), and/or
- Pemphigus Antibodies, IgA by IIF (ARUP test number 0092106), and/or
- Basement Membrane Zone Antibody Panel (ARUP test number 3001410).

Or the test panel that includes all the above:
- Immunobullous Disease Antibody Panel (ARUP test number 3001409).

Monitoring serum antibody profiles by indirect immunofluorescence and antibody levels by ELISAs may aid in assessing disease expression and activity, particularly if persisting, progressing, or changing.

General

Negative Paraneoplastic Pemphigus (Paraneoplastic Pemphigus Autoimmune Multiorgan Syndrome) Antibody Screening results by indirect immunofluorescence do not rule out paraneoplastic/malignancy-associated disease. For negative results, correlate with findings by histopathological examination of formalin-fixed tissue in addition to direct immunofluorescence testing on a biopsy specimen and serum epithelial antibodies characteristic of other immunobullous diseases with further clinical evaluation as indicated.

Positive Paraneoplastic Pemphigus Antibody Screen testing results by indirect immunofluorescence indicate the presence of serum antibodies to multiple epithelia (simple, columnar, transitional) with several possible epithelial targets, predominantly to plakins (envoplakin, periplakin, desmoplakin I, desmoplakin II, epiplakin, plectin, BP230), also cadherins (desmoglein 1, desmoglein 3; desmocollin 1, desmocollin 2, desmocollin 3), alpha-2-macroglobulin-like-1 (A2ML1), laminin-332, and/or BP180 and support a diagnosis of paraneoplastic pemphigus (paraneoplastic autoimmune multiorgan syndrome). For positive antibody screen testing results without known malignancy, perform aggressive evaluation for malignancy.

Paraneoplastic pemphigus (paraneoplastic autoimmune multiorgan syndrome) develops as a severe mucocutaneous blistering and erosive disease in association with malignancies, most often hematologic (lymphoma, leukemia) and sarcoma, and affects all ages. It also may develop in association with benign neoplasias, especially Castleman disease, which is the most frequent association in children and adolescents. Antibodies targeting the various types of epithelia can lead to involvement of various organs and tissues, for example, eyes, lungs, gastrointestinal tract, kidney, and thyroid and is the basis of the name, paraneoplastic autoimmune multiorgan syndrome.

TESTING METHODS
IgG Paraneoplastic Pemphigus Antibodies

The patient serum is progressively diluted in calcium-containing buffer beginning at 1:5 in three two-fold screening dilutions, layered on rodent substrates, including rat bladder, mouse bladder, mouse heart, and mouse liver, and also on monkey esophagus substrate, and reacted with fluorescein isothiocyanate (FITC)-conjugated antibody to IgG. When positive, the serum is further diluted in two-fold reductions to the limiting dilution of antibody detection or to a maximum dilution of 1:40,960. The limiting-dilution, end-point titer is reported for each rodent substrate. This indirect immunofluorescence testing was developed and its performance characteristics determined by the Immunodermatology Laboratory at the University of Utah. It has not been cleared or approved by the FDA (US Food and Drug Administration). FDA clearance or approval currently is not required for this testing performed in a CLIA-certified laboratory (Clinical Laboratory Improvement Amendments) and intended for clinical use. [Indirect immunofluorescence, one antibody on five substrates (IIF X 5)]

Electronically signed by , MD, on
at
Performed At:

Medical Director: , MD
CLIA Number:

VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
Paraneoplastic Pemphigus Ab Screen	22-173-115169			

END OF CHART

H=High, L=Low, *=Abnormal, C=Critical