ARUP LABORATORIES
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Jonathan R. Genzen, MD, PhD, Chief Medical Officer

Client: Example Client ABC123
123 Test Drive
Salt Lake City, UT 84108
UNITED STATES

Physician: Doctor, Example

Patient: Patient, Example

DOB	10/12/1980
Gender:	Female
Patient Identifiers:	01234567890ABCD, 012345
Visit Number (FIN):	01234567890ABCD
Collection Date:	00/00/0000 00:00

Cell Surface (Epithelial) Antibodies, IgG by IIF

ARUP test code 0090266

EER Epithelial Cell Surface Antibody IgG

See Note

Authorized individuals can access the ARUP Enhanced Report using the following link:

[redacted]

Epithelial Cell Surface Ab IgG

See Note

CLINICAL INFORMATION
Scaly skin patches with erosions, mainly upper chest.

Specimen Details
[redacted] - Serum; Collected: 10/13/2023; Received: 10/17/2023

DIAGNOSTIC INTERPRETATION

Negative IgG cell surface/intercellular substance antibodies by indirect immunofluorescence

(See Results and Comments including further testing recommendations)

RESULTS
Indirect Immunofluorescence (IIF)

Cell Surface (CS)/Intercellular Substance (ICS) IgG Antibodies

IgG: Negative, monkey esophagus substrate

Negative, intact human skin substrate

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

(H) = high/positive

COMMENTS

Specific

The negative IgG cell surface (CS), also known as intercellular substance (ICS), antibody reactivity with both monkey esophagus

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

substrate and intact human skin substrate by indirect immunofluorescence testing is against, but does not rule out, the diagnosis of pemphigus vulgaris, pemphigus foliaceus, or another IgG pemphigus variant. In certain patients with pemphigus foliaceus and pemphigus vulgaris, IgG desmoglein 1 and/or IgG desmoglein 3 antibody levels by ELISAs may be more sensitive diagnostic markers than indirect immunofluorescence.

IgG CS/ICS antibodies characteristically are positive by indirect immunofluorescence in IgG pemphigus variants; IgA CS/ICS antibodies characteristically are positive in the rare IgA pemphigus variant and also may be observed in some pemphigus variants along with positive IgG CS/ICS antibodies. To further evaluate the immunopathological profile with respect to pemphigus antibodies, additional testing may be performed on this specimen by contacting ARUP Client Services at 1-800-242-2787, option 2, with add-on test request(s) for:
- Desmoglein 1 and Desmoglein 3 (Pemphigus) Antibodies, IgG by ELISA (ARUP test number 0090649),
- Pemphigus Antibodies, IgA by IIF (ARUP test number 0092106),

And/or for basement membrane zone (pemphigoid, epidermolysis bullosa acquisita, linear IgA disease) antibodies:
- Basement Membrane Zone Antibody Panel (ARUP test number 3001410).

Detection, levels, and patterns of diagnostic antibodies may fluctuate with disease manifestations. Clinical correlation is needed, including direct immunofluorescence findings on a biopsy specimen and treatment status. Monitoring serum antibody levels by ELISAs as well as serum antibody profiles by indirect immunofluorescence may aid in assessing disease expression and activity, particularly for persisting, progressing, or changing disease.

General

More than 80 percent of patients with pemphigus have positive epithelial cell surface (CS) antibodies, also known as intercellular substance (ICS) antibodies, in their sera identified by indirect immunofluorescence. Serum antibody titers correlate with disease activity, and CS/ICS antibodies may be in low titer or negative in patients whose disease activity is minimal and/or under therapeutic control. CS/ICS antibodies are implicated in the pathophysiology of pemphigus. CS/ICS antibodies are typically not detected in normal individuals or in patients with other immunobullous diseases, although cell surface reactivity may be observed transiently and/or nonspecifically in normal individuals and in patients with drug reactions, infections, and other mucocutaneous diseases. IgG CS/ICS antibodies characteristically are positive by indirect immunofluorescence in IgG pemphigus variants, including pemphigus foliaceus and pemphigus vulgaris. Specific reactivity to the type of desmoglein, determined by enzyme-linked immunosorbent assay (ELISA) may be helpful in determining pemphigus subtypes; IgG desmoglein 1 antibody levels are increased in patients with pemphigus foliaceus, and IgG desmoglein 3 antibody levels with or without increased IgG desmoglein 1 antibody levels, are predominantly increased in patients with pemphigus vulgaris. IgA CS/ICS antibodies are positive by indirect immunofluorescence in patients with IgA pemphigus and in some pemphigus variants along with positive IgG CS/ICS antibodies. Approximately 40 percent of patients with nonclassical IgG/IgA pemphigus have an underlying systemic disease when diagnosed, malignancy being the most common.

TESTING METHODS
Indirect Immunofluorescence (IIF)

IgG Epithelial Cell Surface (CS)/Intercellular Substance (ICS)

Antibodies

Patient serum is progressively diluted in calcium-containing buffer beginning at 1:10 in three two-fold screening dilutions, layered on sections of intact normal human skin and monkey esophagus substrates, 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 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 two substrates (IIF X 2)]

Electronically signed by [redacted] on 10/23/23 at 10:27 PM.
Performed At: IMMUNODERMATOLOGY LABORATORY
417 S. WAKARA WAY, SUITE 2151
SALT LAKE CITY, UT 84108
Medical Director: KRISTIN M. LEIFERMAN, MD
CLIA Number: 46D0681916

VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
EER Epithelial Cell Surface Antibody IgG	23-286-107063	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Epithelial Cell Surface Ab IgG	23-286-107063	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00

END OF CHART

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