Desmoglein 1 and Desmoglein 3 Antibodies in Pemphigus, IgG
ARUP test code 0090649

Desmoglein 1 and 3 Antibodies, IgG

See Note

IMMUNODERMATOLOGY REPORT

Specimen(s):
1. Serum specimen

Clinical/diagnostic information:
No clinical information provided.

DIAGNOSTIC INTERPRETATION

Normal IgG desmoglein 1 and IgG desmoglein 3 antibody levels by ELISAs with concurrent testing consistent with pemphigoid

(See Results, Comments including additional test recommendations, separate concurrent IgG Bullous Pemphigoid Antigens, BP 180 and BP 230, Antibodies testing report with additional findings and comments, and separate concurrent IgG Collagen Type VII Antibody testing report with normal findings and additional comments)

RESULTS

Enzyme-Linked Immunosorbent Assay (ELISA)

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Desmoglein (DSG) 1 and 3 IgG Antibodies

IgG desmoglein 1 antibodies: 1 unit

Reference Range:
Positive (H) = Greater than 20 units
Borderline/Indeterminate = 14-20 units
Negative = Less than 14 units

IgG desmoglein 3 antibodies: 0 units

Reference Range:
Positive (H) = Greater than 20 units
Borderline/Indeterminate = 9-20 units
Negative = Less than 9 units

(H = high/increased; units = units/mL serum)

COMMENTS
Specific

These normal results for IgG desmoglein 1 and IgG desmoglein 3 antibodies by ELISA testing do not provide support for, but do
not rule out, the diagnosis of active pemphigus foliaceus or pemphigus vulgaris. These results do not rule out evolving or treated pemphigus, pemphigus with antibodies to desmoglein epitopes that are not expressed in these ELISAs, non-desmoglein antibody pemphigus, or other immunobullous diseases including IgA pemphigus, pemphigoid, or linear IgA disease. Concurrent IgG Bullous Pemphigoid Antigens, BP 180 and BP 230, Antibodies testing demonstrates a markedly increased IgG BP 180 antibody level, consistent with pemphigoid, and concurrent IgG Collagen Type VII Antibody testing demonstrates normal findings (separate reports with additional comments and including a summary chart of concurrent basement membrane zone antibody test results).

To further evaluate the immunopathological profile, including for pemphigus, testing for IgG and IgA cell surface and basement membrane zone antibodies (Epithelial Skin Antibody, ARUP test number 0090299) may be performed on this specimen by add-on test request through ARUP Client Services, 1-800-242-2787 option 2.

Detection, levels, and patterns of diagnostic antibodies may fluctuate with disease manifestations. Clinical correlation is needed, including correlation with direct immunofluorescence on a biopsy specimen and/or treatment status and/or prior testing results, with consideration for monitoring serum antibody profiles by indirect immunofluorescence as well as antibody levels by ELISAs to aid in assessing disease expression and activity.

General

Desmoglein antibodies in serum from individuals with pemphigus bind to calcium-dependent adhesion molecules in cell surface desmosomes; IgG desmoglein 1 autoantibodies predominate in patients with pemphigus foliaceus, and IgG desmoglein 3 autoantibodies predominate in patients with pemphigus vulgaris. Overlap may occur, and patients with both mucosal and skin lesions have autoantibodies to both desmogleins 1 and 3. Desmoglein antibodies are negative and not detected in normal individuals. IgG cell surface and desmoglein antibody levels correlate with disease activity in pemphigus and diminish with therapeutic response. ELISA testing for IgG desmoglein 1 and IgG desmoglein 3 antibodies is highly sensitive, with greater than 90 percent of pemphigus patients showing increased levels of one or both antibodies; however, up to 30 percent of patients with cell surface antibody-positive pemphigus by indirect immunofluorescence do not have increased IgG desmoglein antibodies by ELISAs, rather they likely have antibodies to different epitopes on desmoglein 1 and/or desmoglein 3 than expressed in these ELISAs or to other adhesion molecules.

**TESTING METHODS**

Enzyme-Linked Immunosorbent Assay (ELISA)

Desmoglein 1 and desmoglein 3 IgG serum antibody levels determined by U.S. Food and Drug Administration-approved ELISAs (Mesacup, MBL BION). [Two ELISAS]

Kristin M Leiferman, MD
Immunodermatologist
Electronically signed 10/27/2019 1:12:15 AM
Performed at: ARUP - University Hospital Laboratory 50 N.
Medical Drive Salt Lake City UT 84132

EER Desmoglein 1 and 3 Antibodies, IgG

See Note

H=High, L=Low, *=Abnormal, C=Critical
Access ARUP Enhanced Report using either link below:

- Direct access:
- Enter Username, Password:
  Username:
  Password:

Performed at: ARUP - University Hospital Laboratory 50 N. Medical Drive Salt Lake City UT 84132

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