



LABORATORY REPORT

Example Client, XYZ123
1234 Warde Road
Ann Arbor MI 48108

EXAMPLE, REPORT W
WX0000003827 M 07/08/1978 45 Y

Referral Testing

Collected: 08/31/2023 11:03 Received: 08/31/2023 11:03

Table with 6 columns: Test Name, Result, Flag, Ref-Ranges, Units, Site. Row 1: Bullous Pemphigoid Antigens (180 kDa and 230 kDa), IgG; See Note; ARRL

CLINICAL INFORMATION
No clinical information provided.

Specimen Details
S12-AB0000000 - Serum; Collected: 8/21/2023; Received: 8/23/2023

DIAGNOSTIC INTERPRETATION

Bullous Pemphigoid (BP180 and BP230) Antibodies, IgG by ELISA monitoring, currently demonstrating an increased IgG BP180 antibody level, supporting a diagnosis of pemphigoid

(See Results, Comments, Test Results Summary Chart with previous and current findings, and Graph of ELISA results in the Enhanced Electronic Report/EELR and/or available upon request)

RESULTS

Enzyme-Linked Immunosorbent Assay (ELISA)

Bullous Pemphigoid (BP)180 and BP230 IgG Antibodies

IgG BP180 antibody level: 43 U/mL (H)

Reference Range:
Normal (negative) = Less than 9 U/mL
Increased (H) (positive) = 9 U/mL and greater

IgG BP230 antibody level: 3 U/mL

Reference Range:
Normal (negative) = Less than 9 U/mL
Increased (H) (positive) = 9 U/mL and greater

(H) = high/positive
U = antibody level in ELISA units

COMMENTS

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Test Name Result Flag Ref-Ranges Units Site

Specific

Current serum testing demonstrates an increased IgG BP180 antibody level by ELISA, supporting a diagnosis of pemphigoid.

IgG BP180 antibody levels correlate with disease activity in some patients with pemphigoid. See chart (below) for summary of previous and current test results. A graph of the ELISA results is available in the Enhanced Electronic Report/EELR and/or available upon request by contacting ARUP Client Services and ask to speak with the Immunodermatology Laboratory at the University of Utah regarding patient results.

Co-expression of IgG and IgA basement membrane zone antibodies may develop in some patients with pemphigoid, which may have implications for disease severity and treatment approach. To further evaluate the immunopathological profile with respect to basement membrane zone antibodies, additional serum testing by indirect immunofluorescence is recommended and may be performed on this serum specimen by contacting ARUP Client Services with add-on test request(s) for:

- Basement Membrane Zone (Epithelial) Antibodies, IgG by IIF (ARUP test number 0092056) and
- Basement Membrane Zone (Epithelial) Antibodies, IgA by IIF (ARUP test number 0092057).

Clinical correlation is needed with consideration for continued monitoring of the serum antibody profile, including by indirect immunofluorescence, to aid in assessing disease activity and expression.

If it would be helpful to discuss this case, the results, and/or further testing, contact ARUP Client Services and ask to speak with the Immunodermatology Laboratory at the University of Utah regarding patient results.

General

Major molecular structures in the basement membrane zone to which IgG pemphigoid antibodies bind have been identified and termed "BP180" for a 180 kDa bullous pemphigoid antigen (also known as bullous pemphigoid antigen 2, BPAG2, or type XVII collagen, COL17) and "BP230" for a 230 kDa bullous pemphigoid antigen (also known as bullous pemphigoid antigen 1, BPAG1). BP180 is a transmembrane component of...

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Test Name	Result	Flag	Ref-Ranges	Units	Site
	<p>the basement membrane zone with collagen-like domains; the non-collagenous 16A (NC16A) antigenic domain of BP180 has been identified as a main antigenic target. BP230 is located in the hemidesmosomal plaque of basal cells in the epidermis. Serum levels of IgG BP180 and IgG BP230 antibodies are determined by ELISA, which may be more sensitive than indirect immunofluorescence. Serum levels of IgG BP180 antibodies may correlate with disease activity in pemphigoid, diminishing with treatment response. Up to 7 percent of individuals who do not have pemphigoid, including patients with other immunobullous diseases, have increased levels of IgG BP180 and/or BP230 antibodies by ELISAs. Patients with pemphigoid may show reactivity to multiple basement membrane zone components in addition to or other than the BP180 and BP230 epitopes in the tested ELISAs. Type VII collagen is a component of anchoring fibrils within epithelial basement membrane zone (skin and mucous membranes) and is an antigenic target of IgG autoantibodies in patients with epidermolysis bullosa acquisita and in a subset of patients with bullous lupus erythematosus and, potentially, as overlapping basement membrane zone antibody expression in patients with other epithelial antibody-associated disease.</p>				

### TESTING METHODS

Enzyme-Linked Immunosorbent Assay (ELISA)

IgG BP180 and IgG BP230 serum antibody levels determined by U.S. Food and Drug Administration (FDA)-approved ELISAs (Mesacup, MBL BION). [Two ELISAs]

### TEST RESULTS SUMMARY CHART

#### Basement Membrane Zone Antibodies

Serum Number	Date of Specimen	IgG BMZ Titers	IgA BMZ Titers	BP 180	BP 230	Col VII
00-0000	00/00/00	IgG ME NA IgG SS NA	IgA ME NA IgA SS NA	91	2	NA
00-0000	00/00/00	IgG ME NA IgG SS NA	IgA ME NA IgA SS NA	78	2	NA
00-0000	00/00/00	IgG ME NA IgG SS NA	IgA ME NA IgA SS NA	85	2	NA

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ELISA Reference Ranges:

IgG BP180 and IgG BP230 Antibody Levels
Normal (negative) = Less than 9 U/mL
Increased (H) (positive) = 9 U/mL and greater

IgG Type VII Collagen Antibody Level
Normal (negative) = Less than 7 U/mL
Slightly increased (H) (positive) = 7-8 U/mL
Increased (H) (positive) = 9 U/mL and greater

Chart Key:

IgG BMZ = IgG basement membrane zone (BMZ) antibodies by indirect immunofluorescence
IgA BMZ = IgA basement membrane zone (BMZ) antibodies by indirect immunofluorescence

ME = Antibody absence (negative) or antibody presence (positive endpoint titer) on monkey esophagus (ME) substrate

SS = Antibody absence (negative) or antibody presence (positive pattern and endpoint titer) on split skin (SS) substrate

Epi = epidermal localization (roof) on split skin substrate (IgG - pemphigoid including bullous pemphigoid, some mucous membrane pemphigoid, and other pemphigoid variants; IgA - linear IgA disease including linear IgA bullous dermatosis and chronic bullous disease of childhood)

Derm = dermal localization (floor) on split skin substrate

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Electronically signed by
Performed At: IMMUNODERMATOLOGY LABORATORY
417 S. WAKARA WAY, SUITE 2151
SALT LAKE CITY, UT 84108
Medical Director: KRISTIN M. LEIFERMAN, MD
CLIA Number: 46D0681916

EER Bullous Pemphigoid Antigens, IgG See Note ARRL

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

Performed By: ARUP Laboratories
500 Chipeta Way
Salt Lake City, UT 84108
Laboratory Director: Jonathan R. Genzen, MD, PhD
CLIA Number: 46D0523979

Performing Site:
ARRL: ARUP REFERENCE LAB 500 Chipeta Way Salt Lake City UT 841081221

Reported Date: 2023.09.28 11:01 BP

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