

# Immunobullous Diseases Testing - Epithelial Antibody Associated

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**INDICATIONS FOR TESTING**  
Symptomatic adults

See additional indications for testing for [symptomatic adults with neoplastic disease](#) and [symptomatic pregnant women \(typically in 2nd or 3rd trimester\)](#)

Abbreviations	
BMZ	Basement membrane zone
DIF	Direct immunofluorescence
EBA	Epidermolysis bullosa acquisita
ELISA	Enzyme-linked immunosorbent assay
eTG/TG3	Epidermal transglutaminase
IFA	Indirect fluorescent antibody
IIF	Indirect immunofluorescence
Ig	Immunoglobulin
tTG/TG2	Tissue transglutaminase

**Test for immunobullous diseases (pemphigus, pemphigoid, EBA, linear IgA disease, or dermatitis herpetiformis)**

**Obtain biopsy specimen(s) of intact skin or mucosa**

- Lesional for histopathology
- Perilesional for [Direct Immunofluorescence, Tissue Biopsy \(Cutaneous, Mucosal, Epithelial\)](#)<sup>a</sup>

**Obtain serum specimen for Immunobullous Disease Antibody Panel**

- OR, if strong clinical suspicion for pemphigus, order [Pemphigus Antibody Panel, IgG](#)
- OR, if strong clinical suspicion for pemphigoid, order [Basement Membrane Zone Antibody Panel](#)<sup>b,c</sup>
- OR, if strong clinical suspicion for dermatitis herpetiformis, order [Epidermal Transglutaminase \(eTG/TG3\) Antibody, IgA by ELISA](#) and [Celiac Disease Reflexive Cascade](#)<sup>d</sup>

- Supportive histopathology, DIF, and/or serology
- Serology positive at titer >1:10

**Negative**

Monitor for developing immunobullous disease

Consider porphyria or pseudoporphyria (perilesional skin biopsy is not specific but will not be consistent with immunobullous disease)

Repeat testing:

- In approximately 3-6 mos for persistent unexplained disease
- In approximately 6-12 wks for rapidly evolving or changing disease

Granular and/or fibrillar IgA along BMZ, based on cutaneous DIF skin biopsy

IgA BMZ epidermal, dermal, or combined epidermal/dermal pattern antibodies

IgG BMZ antibodies

IgG cell surface antibodies

**ORDER**

[Pemphigus Antibodies IgA by IIF](#) (also included in [Immunobullous Disease Antibody Panel](#) and [Basement Membrane Zone and Cell Surface \(Epithelial\) Antibodies, IgG and IgA by IIF](#))

Test for dermatitis herpetiformis/ceeliac disease serologies<sup>e</sup>

[Linear IgA disease](#)<sup>c</sup>

Epidermal pattern<sup>c</sup>

Combined epidermal/dermal pattern<sup>c</sup>

Dermal pattern<sup>c</sup>

[Pemphigus](#)<sup>e</sup>

Negative

Positive

Consider treatment status and test repetition, as dietary gluten restriction may reduce/eliminate detectable antibodies, and/or consider seronegative disease

[Dermatitis herpetiformis](#)<sup>f</sup>

Testing will likely demonstrate antibodies to bullous pemphigoid antigens (180 kDa and 230 kDa, BP180, BP230)<sup>g</sup>

Consider anti-p200 pemphigoid, anti-laminin-332 pemphigoid, type VII collagen-negative EBA<sup>i</sup>

Normal type VII collagen antibody IgG level<sup>g</sup>

Increased type VII collagen antibody IgG level<sup>g</sup>

Antidesmoglein 1 IgG increased<sup>h</sup>

Antidesmoglein 3 IgG increased<sup>h</sup>

[EBA](#)<sup>i</sup> (most characteristic) or bullous lupus

[Pemphigus foliaceus](#) (most common) or [pemphigus erythematous](#)

[Pemphigus vulgaris](#) (most common) or [pemphigus vegetans](#)

[IgA pemphigus](#)<sup>f</sup>

<sup>a</sup>For all suspected immunobullous disease, biopsy sample should be obtained from perilesional tissue because immunoreactants may not be present in lesional (blistered or eroded) tissue; perilesional tissue is defined as immediately adjacent to, but not involving, a blister or erosion and may include inflamed, intact skin or mucosa.

<sup>b</sup>The [Basement Membrane Zone Antibody Panel](#) includes epithelial IgG and IgA BMZ antibody testing by IIF as well as bullous pemphigoid antigens, BP180 and BP230, IgG antibody and type VII collagen IgG antibody testing by ELISA. These same test components are included in the [Immunobullous Disease Antibody Panel](#), along with cell surface (pemphigus) antibody testing components. The [Pemphigoid Antibody Panel](#) can be ordered separately (but this panel does not include type VII collagen IgG antibody testing by ELISA), and the IIF and ELISA components can be ordered separately.

<sup>c</sup>IIF pattern is determined on BMZ split-skin substrate, also known as salt-split skin.

<sup>d</sup>The [Celiac Disease Reflexive Cascade](#) assesses IgA and tTG IgA; reflex testing may include EMA IgA and/or DGP IgA, or tTG IgG and DGP IgG.

<sup>e</sup>Dermatitis herpetiformis serologies include testing for celiac disease (which is present in most patients), consisting of [Celiac Disease Reflexive Cascade](#) and/or [Epidermal Transglutaminase \(eTG/TG3\) Antibody, IgA by ELISA](#). An alternative is to order [Epidermal Transglutaminase \(eTG/TG3\) Antibody, IgA by ELISA](#); [Endomysial Antibody, IgA by IFA](#); and [Endomysial Antibody, IgG](#).

<sup>f</sup>See [Monitoring table in Epithelial Antibody-Associated Immunobullous Diseases Testing](#) topic in ARUP Consult for disease-specific monitoring test recommendations.

<sup>g</sup>[Collagen Type VII Antibody, IgG by ELISA](#) is included in the [Immunobullous Disease Antibody Panel](#) and the [Basement Membrane Zone Antibody Panel](#), or can be ordered separately.

<sup>h</sup>Desmoglein 1 and desmoglein 3 antibody IgG testing (performed and reported for both desmoglein 1 and desmoglein 3 antibody levels) is included in the [Immunobullous Disease Antibody Panel](#) and the [Pemphigus Antibody Panel, IgG](#), or can be ordered separately. Patients with pemphigus can be negative and have antibodies to cell-cell adhesion molecules other than desmoglein 1 and desmoglein 3.

<sup>i</sup>Patients with pemphigoid can be negative for bullous pemphigoid antigen (BP180 and BP230) antibodies.

<sup>j</sup>Additional laboratory testing not available for these diagnoses; >30% of patients with anti-laminin-332 pemphigoid have an associated malignancy.