

**Overview****Useful For**

Confirming the presence of IgG antibodies to diagnose of pemphigoid, pemphigus, epidermolysis bullosa acquisita, or bullous lupus erythematosus

**Method Name**

Indirect Immunofluorescence

**NY State Available**

Yes

**Specimen****Specimen Type**

Serum

**Specimen Required****Collection Container/Tube:**

**Preferred:** Serum gel

**Acceptable:** Red top

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 2 mL

**Collection Instructions:** Centrifuge and aliquot serum into a plastic vial.

**Specimen Minimum Volume**

0.5 mL

**Reject Due To**

Gross hemolysis	OK
Gross lipemia	Reject
Gross icterus	OK

**Specimen Stability Information**

Specimen Type	Temperature	Time	Special Container
Serum	Refrigerated (preferred)	14 days	
	Frozen	30 days	

	Ambient	14 days	
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## Clinical & Interpretive

### Clinical Information

Immunoglobulin G anti-basement membrane zone (BMZ) antibodies are produced by patients with pemphigoid. In most patients with bullous pemphigoid, serum contains IgG anti-BMZ antibodies, while in cicatricial pemphigoid circulating IgG anti-BMZ antibodies are found in a minority of cases. Sensitivity of detection of anti-BMZ antibodies is increased when serum is tested using sodium chloride-split primate skin as substrate.

Circulating IgG anti-BMZ antibodies are also detected in patients with epidermolysis bullosa acquisita and bullous eruption of lupus erythematosus.

IgG anti-cell surface (CS) antibodies are produced by patients with pemphigus. The titer of anti-CS antibodies generally correlates with disease activity of pemphigus.

### Reference Values

Report includes presence and titer of circulating antibodies. If serum contains basement membrane zone antibodies on split-skin substrate, patterns will be reported as:

- 1) Epidermal pattern, consistent with pemphigoid
- 2) Dermal pattern, consistent with epidermolysis bullosa acquisita

Negative in normal individuals

### Interpretation

Indirect immunofluorescence (IF) testing may be diagnostic when histologic or direct IF studies are only suggestive, nonspecific, or negative.

Anti-cell surface antibodies correlate with a diagnosis of pemphigus.

Anti-basement membrane zone (BMZ) antibodies correlate with a diagnosis of bullous pemphigoid, cicatricial pemphigoid, epidermolysis bullosa acquisita (EBA), or bullous eruption of lupus erythematosus (LE).

If serum contains anti-BMZ antibodies, the pattern of fluorescence on sodium chloride (NaCl)-split skin substrate helps distinguish pemphigoid from EBA and bullous LE. Staining of the roof (epidermal side) or both epidermal and dermal sides of NaCl-split skin correlates with the diagnosis of pemphigoid, while fluorescence localized only to the dermal side of the split-skin substrate correlates with either EBA or bullous LE.

### Cautions

Results should be interpreted in conjunction with clinical information, histologic pattern, and results of direct immunofluorescence (IF) study. In particular, the finding of low titer (< or =1:80) anti-cell surface antibodies should not be used alone (ie, without histologic or direct IF support) to confirm a diagnosis of pemphigus.

### Clinical Reference

1. Beutner EH, Chorzelski TP, Kumar V, eds. Immunopathology of the Skin. 3rd ed. Wiley Medical Publication; 1987
2. Gammon WR, Briggaman RA, Inman AO 3rd, Queen LL, Wheeler CE. Differentiating anti-lamina lucida and anti-sublamina densa anti-BMZ antibodies by indirect immunofluorescence on 1.0 M sodium chloride-separated skin. J Invest Dermatol. 1984;82(2):139-144
3. Tirumalae R, Kalegowda IY. Role of BIOCHIP indirect immunofluorescence test in cutaneous vesiculobullous diseases. Am J Dermatopathol. 2020;42(5):322-328

## Performance

### Method Description

Frozen sections of primate esophagus and sodium chloride-split primate skin are overlaid with dilutions of patient's serum, incubated, covered with fluorescein-conjugated IgG antiserum, and interpreted with a fluorescence microscope.(Unpublished Mayo method)

### PDF Report

No

### Day(s) Performed

Monday through Friday

### Report Available

2 to 7 days

### Specimen Retention Time

30 days

### Performing Laboratory Location

Rochester

## Fees & Codes

### Fees

- Authorized users can sign in to [Test Prices](#) for detailed fee information.
- Clients without access to Test Prices can contact [Customer Service](#) 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact [Customer Service](#).

### Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. It has not been cleared or approved by the US Food and Drug Administration.

### CPT Code Information

88346  
88350**LOINC® Information**

Test ID	Test Order Name	Order LOINC® Value
CIFS	Cutaneous Immflour. Ab, S (IgG)	104835-4

Result ID	Test Result Name	Result LOINC® Value
21539	Cell Surface Ab IgG	104831-3
21540	Basement Membrane IgG	104836-2
21541	Primate Esophagus IgG	66881-4
21542	Primate Split Skin IgG	104832-1
21638	Other	48767-8