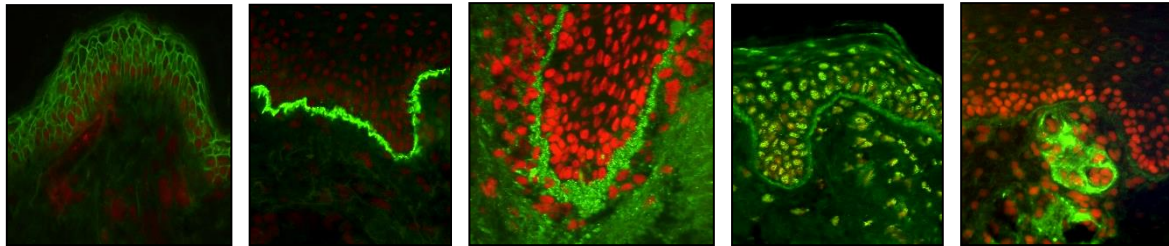


DIAGNOSTIC IMMUNODERMATOLOGY SERVICES: USER GUIDE



The Synnovis Immunodermatology Laboratory is the only dedicated skin immunofluorescence referral laboratory in the UK. We receive approximately 7,500 samples per year from over 100 centres around the UK.

Conditions assessed

The laboratory specialises in contributing to the diagnosis and management of the following diseases using immunofluorescence and ELISA techniques:

Condition	No. of biopsies requested	Biopsy site(s) for DIF studies
Pemphigus (all forms)	1	Peri-lesional uninvolved
Pemphigoid (all forms)	1	Peri-lesional uninvolved
Pemphigoid gestationis	1	Peri-lesional uninvolved
Epidermolysis bullosa acquisita (EBA)	1	Peri-lesional uninvolved
Linear IgA bullous dermatosis (LABD)	1	Peri-lesional uninvolved
Dermatitis herpetiformis (DH)	1	Peri-lesional uninvolved
Discoid lupus erythematosus (DLE)	1	Lesional
Systemic lupus erythematosus (SLE)	2	Lesional and uninvolved (non-sun
Lichen planus (LP)	1	Lesional
Porphyria	1	Lesional
Vasculitis	1	Lesional
Amyloidosis	1	Lesional

NB For accurate direct immunofluorescence diagnosis of the immunobullous diseases in bold above, biopsy of **normal perilesional** skin or mucosa is essential. Lesional and/or heavily inflamed biopsies are sub-optimal for this technique and are unlikely to yield diagnostically useful results.



Specimen Requirements

Immunofluorescence can be performed on either epithelial biopsies (DIF) or serum (IIF). Enzyme-linked immunosorbent assays (ELISAs) can only be performed on serum.

NB The laboratory no longer accepts blister fluid specimens for analysis.

Direct immunofluorescence (DIF)

This is a one-step procedure for detecting *in vivo* deposition of immunoglobulins, complement component C3 and fibrinogen in epithelial tissues including skin, buccal mucosa and conjunctiva.

Sample required	Tissue biopsy/biopsies from appropriate site (see table on page 1)
Biopsy preparation	Biopsies should be placed in a specimen pot containing Michel's medium, which can be provided on request. Biopsies are stable at room temperature in this medium for up to 6 months. Containers must be labelled with patient name and date of birth.
Request form	Request forms are provided with the Michel's medium specimen pots. These should be fully completed to include: <ul style="list-style-type: none"> • Patient name (forename and surname) • Date of birth • Requesting clinician name • Sender details • Report destination • Biopsy site • Clinical information <i>(including question(s) to be answered and differential diagnoses)</i>
Transport	<ul style="list-style-type: none"> • The specimen container must be placed in a sealed plastic bag, with the request form outside the plastic bag. • The bagged specimen should be placed into a primary container, with adequate absorbent material, in case of leakage. • Securely seal the primary container, then place it in a secondary shipping container, which should also contain enough absorbent material to prevent any leakage from escaping outside the container. • Specimens should be sent by either courier service or registered post to the above address and shipped at ambient temperature.
Rejection criteria for sample	<ul style="list-style-type: none"> • Tissue not transported in Michel's medium • Tissue contaminated with formalin • Request form inadequately filled out or absent • Specimen pot details fail to match those on the request form
Turnaround time	5 working days from receipt in laboratory



Procedure for biopsy

- Whenever possible, separate biopsies should be taken for histology and DIF.
- For uninvolved perilesional or lesional skin, a 3 or 4 mm punch biopsy is sufficient

Indirect immunofluorescence (IIF)

This is a two-step procedure for demonstrating circulating auto-antibodies in a patient's serum, utilising a number of epithelial substrates.

Sample required	5 ml coagulated venous blood or 0.5 ml serum, sent to laboratory within 48 hours of collection (1 month for separated serum following storage at 4°C). NB Please use a gold coloured, serum separator blood tube for collection of sample Serum samples must be labelled with patient name and date of birth.
Request form	All samples should be accompanied by a fully-completed request form (see DIF table for further details)
Transport	(See DIF table)
Rejection criteria	<ul style="list-style-type: none"> • Non-coagulated blood or plasma received • Specimens showing extensive haemolysis or lipaemia • Request form inadequately filled out or absent • Blood tube details do not match request form
Turnaround time	8 working days from receipt in laboratory



ELISA

The laboratory performs the following 5 assays for quantification and monitoring of specific circulating antibodies:

Antibody	Disease	Positivity threshold
Desmoglein 1	Pemphigus	>30 U/ml
Desmoglein 3	Pemphigus	>30 U/ml
BP180/collagen XVII	Pemphigoid	>20 U/ml
BP230/dystonin	Pemphigoid	>10 U/ml
Collagen VII	Epidermolysis bullosa acquisita	>20 U/ml

Each ELISA can be performed on 10 µl of serum and results are reported in (arbitrary) U/ml. ELISAs are normally performed in combination with IIF studies, hence sample requirements are identical to those for IIF. Relevant ELISA testing will be determined by lab staff, dependent on immunofluorescence results and information provided on the request form.



Laboratory opening hours:

09:00 – 17:00, Monday to Friday

Contact details:

Tel: 020 7188 6364
Email: immunodermatology@gstt.nhs.uk
viapath.imf@nhs.net
Address: Immunodermatology Laboratory
St John's Institute of Dermatology
St Thomas' Hospital
Westminster Bridge Road
London
SE1 7EH

Results are available to clinicians by telephone or email.
No information will be given to patients or their relatives, in accordance with data protection legislation.

Senior staff:

- **Dr Richard Groves**, *Consultant Dermatologist/Clinical Lead*
- **Dr Catherine Stefanato**, *Consultant Dermatopathologist*
- **Dr John Mee**, *Clinical Scientist/Lab Manager*
- **Asif Khan**, *Senior Biomedical Scientist*

For clinical advice, including patient management issues, please contact Dr Groves on **020 7188 6279**.

For results interpretation or any other lab-related queries, please contact Dr Mee on **020 7188 3057**.