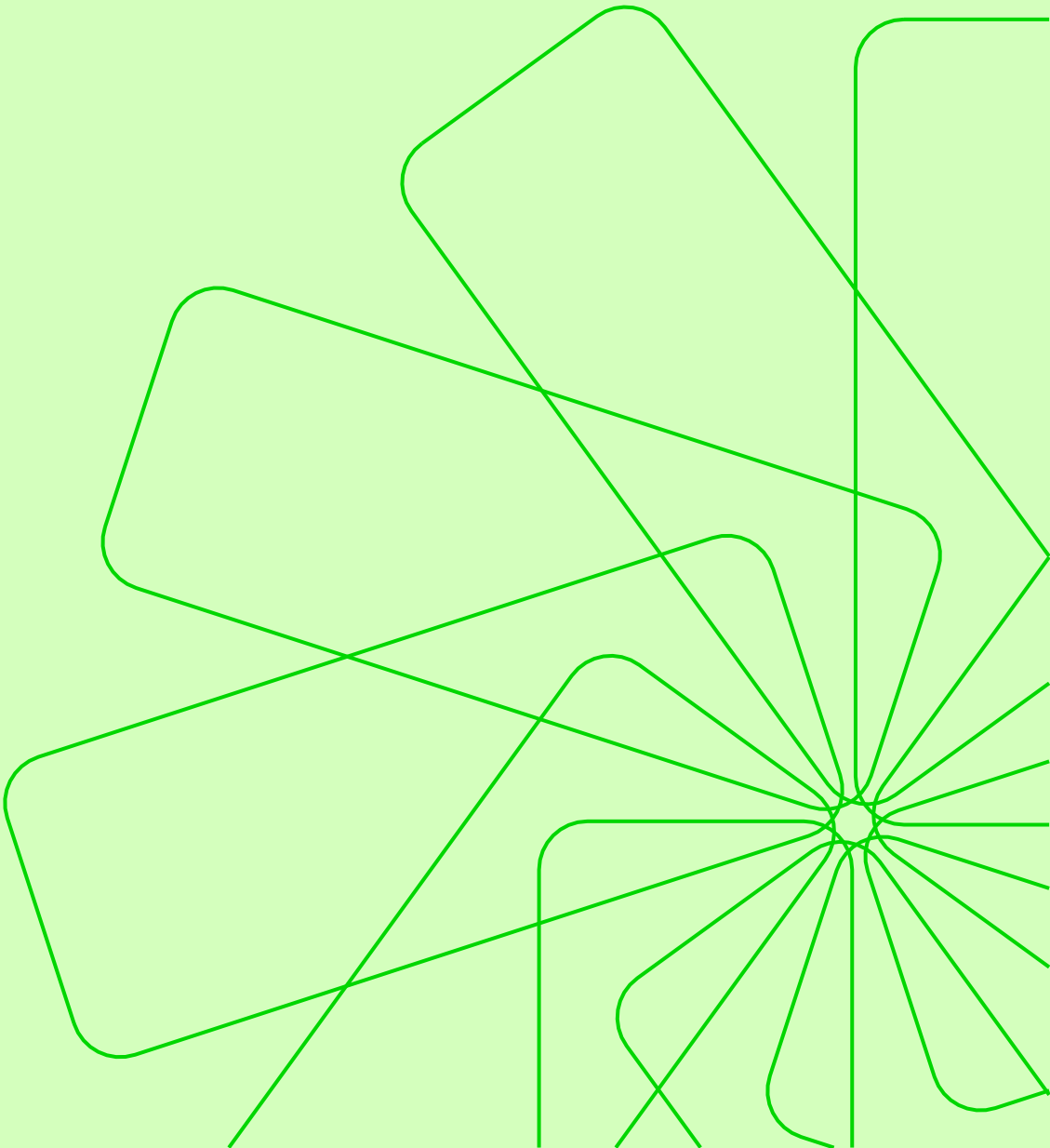
ANTHONY NOLAN

Histocompatibility Laboratories

SERVICE PROVISION USER GUIDE

MAY 2024 VERSION 13



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1. Introduction

At Anthony Nolan, we are saving lives through stem cells.

The Anthony Nolan registry makes lifesaving connections between people with blood cancer and blood disorders, and incredible strangers ready to donate their stem cells to people in desperate need of transplants. We conduct pioneering research into the treatment of bone marrow disorders and look for new ways to improve the effectiveness of stem cell transplants.

The Anthony Nolan Histocompatibility Laboratories provides Histocompatibility and Immunogenetics (H&I) services to donors and patients awaiting Haematopoietic Stem Cell (HSC) transplants at four NHS Hospital Trusts. We also support the renal transplant patients of the Royal Free London NHS Foundation Trust. In addition, the laboratories provide Human Leukocyte Antigen (HLA) related disease association and drug-hypersensitivity testing as well certain gene mutation testing, such as in the HFE gene for Haemochromatosis.

This prospectus is aimed at the following individuals and organisations to ensure that all those affected by the services provided by Anthony Nolan Histocompatibility Laboratories are informed of the processes undertaken:

- Transplant centres and H&I staff in the UK and overseas.
- General practitioners.
- Patients in need of an HSC transplant and their families in the UK and overseas.
- Potential HSC donors.
- Government or Professional agencies.
- The wider national and international scientific and medical community.
- Anthony Nolan supporters and fundraisers.
- International registries.
- Hospital Haematology units.

A. Data Protection

Anthony Nolan shall comply with the Data Protection Act 2018 and the EU General Data Protection Regulation 2016/679.

Please refer to our privacy policy (**anthonynolan.org/privacy-policy**) for further information on how Anthony Nolan uses and stores personal information.

B. Impartiality Statement

Anthony Nolan is a not-for-profit company, structured to ensure that impartiality is uncompromised by organisation structure, business contracts, finances, and other factors.

The Anthony Nolan Histocompatibility Laboratory applies its policies and procedures in a non-discriminatory way, and its services are available to any customer whose requirements fall within its defined scope of activities. Eligibility is not dependent on the customer's institution size, funding source, or membership of any association or group.

The impartiality and objectivity of the histocompatibility services that Anthony Nolan provides is tightly controlled. All laboratory samples are anonymised upon receipt and tested in line with Standard Operating Procedures. In addition, Anthony Nolan personnel are required to declare any potential conflicts of interest.

Anthony Nolan Histocompatibility Laboratories evaluates potential risks to its impartiality on an on-going basis using several mechanisms including internal audit, internal management reviews and customer feedback. Where any such risks are identified, the Laboratory shall put appropriate measures in place to eliminate or minimise them. These measures are monitored for effectiveness.

If customers or other stakeholders have concerns regarding the impartiality or objectivity of Anthony Nolan Histocompatibility Laboratories, the Laboratory has non-discriminatory procedures in place for handling complaints and appeals.

C. Complaints Procedure

Comments on the service provided by the Laboratory are welcome and help us to improve. Please send details in an email to the Quality Team: **QualityTeam@anthonynolan.org**.

If you wish to make a formal complaint regarding the services provided by the Anthony Nolan Histocompatibility Laboratories, or to report a Serious Adverse Event or Reaction (SAE/SAR), please send details in an email to the Quality Team: **Complaints@anthonynolan.org**.

2. Anthony Nolan Departments

Our organisation is made up of several departments, all working together to ensure we save as many lives as we can.

This brochure outlines the services specifically offered by the Anthony Nolan Histocompatibility Laboratories.

Our other departments also have an important role to play in achieving our aim, such as Donor and Transplantation Services, Patient Services, Quality and Regulation, Scientific Research, Cell and gene therapy, Information Technology, Cord, Finance and Resources and Engagement. For further details of these departments please visit **anthonynolan.org**.

We act as the UK's 'hub' for volunteer unrelated HSC transplantation. As such, Anthony Nolan co-ordinates all aspects of extending a donor search internationally, from foreign donor and cord blood sample requests through to donor work-up for donation and import of haematopoietic stem cell products.

For a comprehensive overview of the services we provide, look at the Anthony Nolan Operations Service User Guide. **https://www.anthonynolan.org/clinicians-researchers-hub/healthcare-professionals/transplant-services/guides-and-forms**.

The Anthony Nolan Histocompatibility Laboratories are accredited by United Kingdom Accreditation Service (UKAS) to ISO15189 (8630) and the European Federation for Immunogenetics (EFI). The certificates can be viewed on our website: **anthonynolan.org/what-we-do/our-organisation/accreditation-and-regulation**.

The processes in the laboratory are validated and are documented in standard operating procedures (SOPs). They are performed by trained staff whose competency is monitored regularly. The laboratory also carries out regular internal audits to demonstrate and improve good laboratory practices and to ensure we are adhering to our regulatory requirements.

The laboratory participates in external quality assessment (EQA) schemes, such as those facilitated by the United Kingdom National External Quality Assessment Service (UKNEQAS) and other relevant assessment bodies.

3. Services Supporting HSCT

Anthony Nolan H&I services, headed by a Laboratory Director with the support of the H&I Clinical Consultant Lead and highly experienced Clinical Scientists, have been supporting haematopoietic stem cell transplantation for over 50 years.

Our dedicated Laboratory, situated on our Royal Free Hospital site, is equipped to deliver a world leading service for your patients, delivering cutting edge HLA typing and research-led advice on the best donor options. As the largest H&I laboratory within the UK, we use our knowledge and experience to support 25% of all UK based allogeneic transplants. We have the capacity to flex to your needs, and together with our registry services we can offer a seamless end to end service for all your patients.

A. Registry Services

To date Anthony Nolan has facilitated over 22,000 transplants since the first unrelated donor transplant was performed in 1973. Our ability to adapt and evolve with the techniques and technologies over the years has ensured we are able to continue offering excellence in our service and qualified expert advice well received by our all customers.

The Operations and Patient Services (OPS) division is responsible for overseeing the donation process once a donor has been identified as a suitable match. The service, tailored to suit your needs, will be delivered by our dedicated and fully committed staff to your specification and within regulatory requirements.

The Histocompatibility Laboratory is a part of OPS and performs the HLA typing of people joining the register, as well as HLA typing of mothers and their cord blood to support the Anthony Nolan Cell Therapy Centre. It also provides extended typing requests for HLA, virology screening (CMV, Hepatitis B, Hepatitis C and HIV) for donor selection, ABO blood grouping and testing for the CCR5 delta 32 mutation. Requests for these services can be made via your UK search coordinator or your national registry hub.

B. HLA Typing

Anthony Nolan uses pioneering techniques to provide high resolution to allelic level typing at HLA-A, B, C, DRB1, DRB3/4/5, DQB1 and DPB1 ensuring you can make the right decision for your patient. Additional results will also be reported for HLA-DQA1 and DPA1, wherever possible, HLA typing is performed on all donor and patient samples utilising Next Generation Sequencing (NGS). Our NGS Typing strategy uses GenDx NGSGo kits to deliver excellent quality high resolution results, reported to you in a quick turnaround. To ensure we can deliver to your timeframes and clinical requirements, a selection of techniques will be utilised should you require an urgent service. All patients and their selected donors should be HLA typed twice prior to transplantation.

Request forms are available by contacting **https://www.anthonynolan.org/clinicians-researchers-hub/healthcare-professionals/transplant-services/guides-and-forms**.

C. Antibody Assessment

Patients being considered for HSCT using a mismatched unrelated donor or Cord Blood Unit (CBU) should be screened for HLA antibodies. Serum separated from clotted blood samples is tested with HLA antibody detection kits that utilises Luminex® XMAP technology and instruments. If HLA antibodies are detected samples are further tested with HLA antibody specificity definition, Luminex® Single Antigen Bead kits to identify HLA antibodies. The test results are reported with appropriate clinical advice to users to aid donor selection.

In certain circumstances, additional testing may be required to assist in the final donor choice. The laboratory will liaise with you directly to discuss the appropriate options for the donors under consideration. This may include crossmatching, dilution studies and/or complement binding analysis. If the patient has donor specific HLA antibodies (DSA) and an alternative donor is unavailable, you may decide to perform antibody removal. In this case antibody testing can be performed to monitor the decrease in DSA levels sufficient to facilitate transplantation.

D. Additional Laboratory Services

The Anthony Nolan Laboratory is accredited to perform ABO, RhD blood grouping and screening for exposure to relevant viruses. This includes HIV, HepB, HepC and CMV. Where positivity to HepB, HepC and HIV is detected, a repeat test is carried out through a referral Laboratory.

E. Graft Identification Advisory Service (GIAS)

The Graft Identification Advisory Service is supported by a panel of clinical experts to ensure the best donor options are pursued for your patient. Should an unrelated donor or cord blood unit be required for your patient our qualified Search and Selection team will search the UK register and, where applicable, international registries. The team will recommend unrelated donors based on the pre-agreed selection criteria for your patient and initiate the procurement and shipment of blood samples for verification typing carried out at our Laboratory. For each donor, both related and unrelated, comments on the matching suitability will be provided based on our research supported criteria. Our expert team are available to discuss recommendations and further testing strategies with you to ensure the optimal outcome for your patient.

F. Chimerism

Anthony Nolan works with a partner referral Laboratory to provide post-transplant Chimerism monitoring. Lineage specific analysis can also be performed. Please contact the laboratory for further details at **clinicalservices@anthonynolan.org**.

G. Target Turnaround Times

We aim to process and issue reports for at least 90% of patients, potential related and unrelated donor samples within seven working days. If you require urgent typing please contact **clinicalservices@anthonynolan.org** to discuss time frames. All result reports are sent to the requester using known email contacts or requester. Any significant delays to the service, including to the reporting of testing results will be communicated to our users.

H. Referral Laboratories

To support the HLA typing for the addition of new donors to the Anthony Nolan register, at times of maximum capacity, HLA typing may be outsourced to a partner Laboratory with current EFI, ASHI, ISO or other relevant accreditation.

4. Services Supporting Solid Organ Transplantation

The Histocompatibility Laboratories Solid Organ team, provides a service to support the requirements of the renal transplant unit of the Royal Free Hospital, London. This service is funded by the Royal Free London NHS Foundation Trust.

A. Renal Transplantation

For kidney transplantation, potential recipients are HLA typed by DNA based methods at HLA-A, -B, -C, -DRB1, -DRB3, -DRB4, -DRB5, -DQB1 and -DPB1.

Two independent samples are tested for each patient prior to registration on the deceased donor transplant waiting list which is managed by Organ and Tissue Donation and Transplantation (OTDT), which is part of National Health Service Blood and Transplant. Patients are also screened for HLA alloantibodies and if present, the specificity of such antibodies are defined and reported as unacceptable antigens on the National Transplant Database (NTxD). Patients are screened at three monthly intervals in accordance with British Transplantation Society guidelines (**www.bts.org.uk**). Family members may also be HLA typed to resolve patient's HLA haplotypes and to aid definition of antibodies arising from sensitisation through pregnancy.

i. Deceased Donor Transplantation

A 24-hour, seven days a week, on-call service is available to provide HLA typing and crossmatching facilities for potential deceased donor transplants. The London team Transplant Coordinators (NTTC) also known as Specialist nurses for organ donation (SNOD), inform laboratory staff of potential deceased donors in "local" hospitals and arrange for EDTA blood to be collected and sent to the laboratory for HLA typing.
All "local" deceased donors are HLA typed by DNA methods (HLA-A, -B, -C, -DRB1, -DRB3, -DRB4, -DRB5, -DQB1, -DPB1). The donor HLA typing report is sent to OTDT by email. Non-local donors also have their HLA type subsequently confirmed by NGS during routine working hours.

Crossmatching between donor and potential recipient is performed using Flow Cytometry methods. This enables detection of the presence of donor specific antibodies in the patient serum. The results are interpreted in the context of the patient's HLA antibody profile which determined by testing patient sera with Luminex HLA antibody screening and specificity identification kits. A positive crossmatch in the presence of high titre donor specific HLA antibodies (DSA), are a contraindication for transplantation.

A virtual crossmatch (VXM) may be performed on un-sensitised patients and patients with stable HLA antibody profiles and no clinically significant DSA. If the predicted VXM result is negative, the transplant can proceed without a prospective crossmatch using donor lymphocytes. All results are reported to the transplant team.

ii. Living Donor Transplantation

Where a living related, or unrelated donor transplant is being considered, all potential donors are blood group typed to determine compatibility. HLA typing (HLA-A, -B, -C, -DRB1/3/4/5, –DQB1 and -DPB1) is performed to determine compatibility. Virtual cross matching is performed between patient and potential donors to predict a positive or negative result at the initial time of donor selection. A Flow Cytometry crossmatch is performed with the selected donor within 7–14 days of the proposed transplant.

All results are communicated in writing to the live donor transplant nurses and clinicians and discussed at the live donor transplant multi-disciplinary team meeting. Serum samples from all recipients of a transplant are received and screened at intervals in accordance with British Transplant Society guidelines.

B. Target Turnaround Times

Service	TAT
New patient registration on National waiting list	10 days
Deceased donor renal crossmatch	7 hours
Local deceased donor HLA type (From blood received in Labs to reporting HLA type)	4 hours
Live virtual renal donor crossmatch + HLA and Blood group	7 days
Final Live donor crossmatch (Flow cytometry)	48 hours
Routine HLA antibody screening (by Luminex)	10 days

5. Disease Association/ Drug Hypersensitivity

There are certain HLA genes that are associated with disease and are markers for drug hypersensitivity. HLA typing by DNA methodology will be undertaken to provide support in the diagnosis of these associated diseases and drug hypersensitivity reactions. The table below list examples of HLA associated diseases but here are other HLA associated diseases that we can provide HLA typing for, please contact the Laboratory to discuss the required test.

A. Haemochromatosis Mutation Detection

We also perform testing to detect the mutation is the HFE gene (found in the MHC region of the chromosome) which is associated with Haemochromatosis. Haemochromatosis is an autosomal recessive disorder which causes an increase in iron absorption leading to iron overload. The two mutations within the HFE gene (found telomeric to the HLA genes on chromosome 6) have been found to be commonly associated with the disorder. These mutations which alter amino-acid 63 (histidine to aspartate) and amino-acid 282 (cysteine to tyrosine) are detected by the PCR-SSP technique.

Two additional mutations are also tested: one is a mutation that alters amino acid 65 (Serine to Cysteine) and the other is a splice site mutation (IVS3+1G/T).

The table below list examples of HLA associated and HLA linked diseases:

Disease	HLA/GENE
Ankylosing Spondylitis	HLA-B*27
Behcet's Disease	HLA-B*51
Birdshot chorioretinopathy	HLA-A*29
Coeliac Disease	HLA-DQA1 and DQB1
Narcolepsy	HLA-DRB1*15 and DQB1*06
Abacavir Hypersensitivity	HLA-B*57:01
Allopurinol Hypersensitivity	HLA-B*58:01
Carbamazepine Hypersensitivity	HLA-B*15:02/ A*31:01
Haemochromatosis	HFE gene C282Y & H63D (S65C or IVS3+1G/T)

For more details including costs incurred please contact the laboratory: **clinicalservices@anthonynolan.org**.

B. Target Turnaround Time

Our target turnaround time for reporting disease association and drug hypersensitivity reactions requests is for 90% of reports to be sent within seven working days.

6. Contract HLA Typing

The Histocompatibility Laboratories can undertake low and high throughput contract typing for example; supporting academic research studies, or clinical trials. For more details, including cost, contact the laboratory: **typingservices@anthonynolan.org**.

7. Techniques used in the Anthony Nolan Histocompatibility Laboratories

The following techniques are used routinely in the H&I Laboratory. Please refer to the appropriate section in this user guide for more information on the techniques used in a specific clinical context.

A. Next Generation Sequencing (NGS)

NGS utilises GenDx NGSGo kits in conjunction with Illumina Sequencers. This technique can produce reliable high resolution to allelic level HLA results, testing for up to 11 HLA loci, including class I (HLA-A, -B, -C) and class II (DRB1/3/4/5, DQA1, DQB1, DPA1 and DPB1) in one run. The well-established short read technology is highly efficient and allows for all HLA testing to be performed in one pipeline.

B. Sequence Specific Primer (SSP) Testing

SSP typing utilises a panel of PCR primer pairs which target known polymorphic nucleotide motifs within HLA alleles. The presence or absence of a PCR product (utilising a positive internal control PCR product, where appropriate) determines the presence or absence of a particular nucleotide sequence. This pattern is interpreted to give the HLA type. This technique is used, in particular, when an HLA type is required quickly.

C. Virology and Blood Group Typing

Human sera are screened for the presence of CMV (antibody), HIV1/2 (antibody/antigen), Hepatitis B (antigen) and C (antibody) infection by ELISA. Any ambiguous/equivocal results may be confirmed by referral to the UKAS accredited Department of Virology at Royal Free Hospital, Pond Street, London, NW3 2QG.

Blood group typing is performed by haemagglutination reaction to detect red blood cell antigens and determine ABO and RhD blood group. Any ambiguous/equivocal results may be confirmed by referral to the UKAS accredited Blood Transfusion team at Royal Free Hospital, Pond Street, London NW3 2QG.

D. HLA Antibody Screening

Luminex technology is used to establish the presence and specificity of HLA class I and II reactive antibodies in both pre- and post-transplant patients.

Luminex® technology uses fluorescent Micro beads coated with purified HLA class I and II proteins. The beads are incubated with patient sera and any bound antibodies detected after reaction with a fluorescently labelled IgG specific secondary antibody. Test sera are screened to initially determine the presence of HLA class I or II specific antibodies.

Sera testing as positive for HLA specific antibodies are further analysed with Luminex kits designed to define HLA specificities. Highly sensitised patients with IgG antibodies reactive with multiple HLA class I or II antigens are further characterised with Luminex beads possessing immobilised recombinant single class I or II molecules. This provides the highest resolution of HLA-specific antibody analysis.

HLA antibody screening: tests are reported as positive or negative.

HLA antibody specificity identification: antibody specificities identified at a value higher than our validated positive cut off are reported in the context of any previous result, a patient sensitisation history and other relevant clinical information.

Currently the laboratory uses Luminex microbead products from two different manufacturers.

E. Crossmatching

The purpose of the crossmatch (XM) test is to determine the presence of pre-formed antibodies in a patient that are reactive with HLA antigens on donor cells. This could cause hyperacute rejection of a renal graft or delayed engraftment in an HSCT patient. Flow-cytometric (FC) tests are performed by incubating both fresh and selected historic recipient sera with separated donor T and B-cells (allogeneic XM), and recipient T and B-cells (autologous XM). The results of these tests, in conjunction with the known immunological and clinical parameters of a potential renal transplant recipient, are used to advise renal transplant surgeons on the likely risk (high, intermediate or standard) of graft rejection occurring.

A virtual crossmatch may be performed if the patient has a consistently negative antibody screening history. This means that the transplant can proceed before the crossmatch results are available.

The pre-transplant immunological risk assessment is made on the allogeneic crossmatch result, the crossmatch method, whether a positive result was obtained for a historical or current serum and the antibody screening result. The interpretation of these results is made according to the BTS/BSHI guidelines.

8. Histocompatibility Laboratories Information

A. Request Forms and Sample Labelling

All samples sent to the laboratory MUST be correctly labelled and accompanied by a fully completed, appropriate request form.

Please visit **https://www.anthonynolan.org/clinicians-researchers-hub/healthcare-professionals/transplant-services/guides-and-forms** to obtain the relevant request form or contact the laboratory at **clinicalservices@anthonynolan.org**.
For Transplant Centres who are using AN Connect the forms can be generated and submitted via the portal.

All sample test requests must be submitted in writing. The laboratory does not accept oral requests for examinations.

Request forms are available for the following tests:

- Patient and donor histocompatibility testing.
- Disease association studies
- Haemochromatosis mutation detection
- Cord Verification Typing
- Renal transplant histocompatibility testing (patient and/or donor tests).

Please ensure you are using the most current version of the request form.

Please write **clearly in black ink and use block capitals** when completing request forms. **All fields must be fully completed**. All details must be checked carefully to ensure they are correct.

If a sample is clinically urgent then this must be marked on the request form. Please restrict the use of urgent requests to those that are absolutely necessary.

HLA typing samples are prefer from either be a blood sample or a buccal swab.

Samples must be correctly labelled with **at least three of the following identifiers**:

- Full name (First and Surname)
- Date of Birth
- Hospital Number (if available)
- NHS/CHI
- In addition, samples MUST be labelled

with:

- Date & time of when sample was taken
- Requesting Location (Hospital/TC name)

If multiple samples are taken on the same day for the same tests, the time sample taken must be clearly stated on the samples and on the accompanying request forms.

Incorrectly or insufficiently labelled tubes or request form will result in delays to testing, or an additional patient or donor sample being requested.

It is the requesting centre's responsibility to ensure appropriate patient and donor consent as stipulated by the Human Tissue Act 2004 is obtained for the requested tests.

B. Sample Type Requirements

Sample types are shown in the table below and indicated on the request form.

Test	Sample Required
HLA typing for HSCT (patient and donor)	2 x 4ml EDTA blood sample or 2 x Buccal Swabs (only certain buccal swabs are validated for use. Please contact the laboratory for further details and instructions on how to carry out sampling).
Disease Association/Drug hypersensitivity/HFE testing	1 x 4ml EDTA blood sample
Virology screening	1 x 4ml clotted blood sample
Blood grouping	1 x 4ml EDTA blood sample
New renal patient	2 x 6ml EDTA blood sample + 2 x 6ml clotted blood sample
Allogeneic crossmatch	**From donor**: 7 x 6ml EDTA blood sample or spleen or lymph node as appropriate **From patient**: 1 X 6ml clotted blood sample
Autologous Renal Crossmatch	**From patient**: 7 x 6ml EDTA and 1 X 6ml clotted blood sample
Antibody screening	1 x 6ml clotted 1 X 6ml clotted blood sample
Renal donor	7 x 6ml EDTA 1 X 6ml clotted blood sample

All blood samples should be taken by an appropriately qualified phlebotomist or medical practitioner in accordance with local procedures.

All samples should be stored and shipped at room temperature. Please ensure all mailing containers are compliant with UN3373 and IATA 650 transport regulations, i.e. all blood samples should be packaged in leak proof containers and the packaging should have the appropriate labels for the category of the sample sent. Ideally, all pathological specimens should be packaged by a recognised laboratory or institution or a qualified medical practitioner.

All packages should be addressed as indicated on the request forms or as per local agreements.

Buccal swabs can be packaged and sent in the pack provided by the individual taking the sample. These must be appropriately labelled and accompanied by a request form.

C. Factors Known to Affect Performance of Tests

In general samples should be sent to the laboratory without delay at ambient temperature as certain tests require viable cell populations. Furthermore, our ability to extract quality DNA can be reduced in older samples.

It is important to collect samples into the correct tubes. Please ensure the correct anticoagulant (usually EDTA) or no anticoagulant (clot) is used (see table in section 8B). It is also important to supply adequate volumes of blood to allow completion of testing.

Certain tests can be affected if a patient has a low white blood cell count or as a result of drug treatment or disease. Please indicate on the request form if the patient is known to be leucopoenic.

Serum samples for HLA antibody screening and cross matching must be received in the laboratory within 48 hours of being drawn. Serum must be used in downstream procedures within 48 hours of being drawn or stored at -70°C until required.

For Flow cross matching; EDTA blood used for lymphocyte isolation must be dispatched at ambient temperature and reach the laboratory for processing within 48 hours of being drawn.

Certain drugs/treatment are known to affect some tests performed in the lab. Please note on the form if your patient is taking Immunosuppressants such as IVIg, Rituximab, etc.

Users of our services will be notified if there is any deviation from our accredited services.

D. Time Limits for Requesting Additional Examinations

Samples from all patients who have undergone a transplant and their donors (related and unrelated) are securely stored frozen in the laboratories as either DNA or whole blood in accordance with national guidelines.

Serum samples from renal transplant patients (pre and post-transplant) are securely stored frozen in the laboratories as sera in accordance with national guidelines.

E. Histocompatibility Laboratory Address, Opening Hours and Contact Details

Postal address of Histocompatibility Laboratories:

Anthony Nolan Laboratories
77B Fleet Road
London NW3 2QU

The laboratories core opening hours are Monday to Friday, excluding bank holidays from 9am to 5pm.

Clinical and scientific advice regarding testing and on the interpretation of results is available during these hours. See below for contact information.

We also provide an out of hours service in support for solid organ transplantation at the Royal Free hospital, 24 hours a day, 365 days a year. A Consultant clinical scientist is also available to medical staff for transplantation advice outside of the core working hours. See below for contact information.

Laboratory reception telephone number: 020 7284 8348

Laboratory email address:

(General enquiries): **Laboratories@anthonynolan.org**

Clinical advice and Result Enquiries relating to HSCT:

Email: **clinicalservices@anthonynolan.org**

Telephone contacts:
Clinical Services: 0207 2848346
Clinical Services: 0207 2848329

H & I Clinical Consultant Lead/Principal Clinical Scientist:

0207 4246573 (office).

07884650581

Commercial HLA typing enquiries:

Email: **typingservices@anthonynolan.org**

Clinical advice and Result Enquiries relating to Solid organ transplant (Royal Free Hospital):
Email: **rftissuetyping@nhs.net**

Telephone contacts:
02077940500 Ext 35123
02072848341

07786278788 (Out of hours contact number).

Clinical Scientist Lead, Solid Organ Group:

07841429852

9. Histocompatibility Laboratories Department Senior Staff

Director of Laboratory Operations
Lisa Walsh

Co-Director of Laboratories
Professor Steven G E Marsh BSc PhD ARCS

Chief Medical & Scientific Officer
Dr Robert Danby BSc MB ChB DPhil MRCP FRCPath

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Dr Sharon Vivers PhD DipRCPath FIBMS

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WMDA Accredited

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