



Health Protection Agency  
National Mycobacterium Reference Laboratory &  
Regional Centre for Mycobacteriology  
for South and Southeast England



User Manual

August 2009

The NMRL is a constituent laboratory of the HPA Centre for Infection

The NMRL is a WHO Supranational Reference Laboratory

The NMRL is part of the Clinical TB and HIV Group, Blizard Institute of Cell and Molecular Sciences, Barts and the London School of Medicine, Queen Mary College.

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# National Mycobacterium Reference Laboratory (NMRL)

The NMRL is a CPA-accredited constituent reference laboratory of the Centre for Infection of the Health Protection Agency and is the HPA National Mycobacterium Reference Laboratory for England and the Regional Centre for Mycobacteria for South and South-east England.

The principal activities of the NMRL includes: a primary isolation service including microscopy and culture, Fastrack (PCR) Service for detection of *M.tuberculosis* complex and rifampicin (and multidrug) resistance, a PCR based rapid identification of *Mycobacterium* sp isolates, and drug susceptibility testing for first line and second line/reserve drugs. The NMRL initiated the first national molecular detection and drug resistance service for patient specimens and with centres in Germany, Estonia and Russia developed and initiated new rapid liquid culture analyses for second line/reserve drugs; molecular epidemiological typing and support of outbreak investigations/contact tracing. Our activities support surveillance activity for TB in the UK.

Interferon Gamma Release Assays for detection of latent infection and diagnosis have been introduced and the molecular epidemiological service, which at present is by request, is due to be expanded into a prospective service for all isolates of *M.tuberculosis* complex this year.

In 2005, the NMRL moved to the Institute of Cell and Molecular Sciences of Barts and the London School of Medicine, Queen Mary College where it forms the major part of the Clinical TB and HIV Group. The Group's research interests relate to all aspects of tuberculosis and other mycobacterial diseases, respiratory infections, and HIV particularly its interaction with TB; we focus on disease diagnosis, the molecular epidemiology of TB and HIV, understanding drug resistance and disease tropisms, and broader public health problems posed by these diseases both in the UK and overseas. We have an international staff working on collaborative national and international clinical, laboratory and public health topics relating to TB and HIV in Russia and Ukraine currently and in partnership with other institutions in Africa.

The NMRL is also a WHO Supranational Reference laboratory for *M tuberculosis* drug sensitivity testing (DST); together with centres in Germany, Sweden and Belgium, it co-ordinates EQA for DST across the EU and non-EU states in the WHO Euro region. It is involved with the development of WHO/IUATLD strategies for management of mycobacterial diseases and participates in international EQA schemes receiving samples and dispatching to designated regions. It is a member of the WHO European Laboratory Task Force, part of the WHO Global Laboratory Initiative and is a member of the WHO global Strategic and Technical Advisory Group which develops WHO global policy on tuberculosis control.

Professor Francis Drobniowski  
Director NMRL

## NMRL contact details

Opening hours 9 am to 5.15 pm Monday to Friday

Main numbers: Telephone 020 7377 5895 Fax 020 7539 3459

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<b>Safety Officer</b>	<b>Mrs Melanie Kemp</b> <a href="mailto:.a.kemp@qmul.ac">.a.kemp@qmul.ac</a>	020 7377 5895 020 7882 2575

General results enquiries are addressed by our administrative staff initially who will direct clinical and technical enquiries to the appropriate staff. There is daily cover for clinical and technical issues and asking for a specific named individual may not be the fastest option (if they are on annual leave). Complex cases are discussed further internally and the advice returned will often be a product of this discussion not just the opinion of the person answering the call. We record the advice given for continuity. We must know the identity both of the patient and the caller.

# Summary of Services

- **Please note that although analyses will generally be provided free to the NHS, where a patient specimen is sent a charge will be incurred**
- **Identification of Mycobacterium sp isolates** (this is currently provided free to the NHS and is a rapid molecular DNA-amplification based identification service)
- **Drug Susceptibility Testing** (phenotypic culture based for first-line drugs and on solid media and rapid liquid culture based for second-line and reserve drugs; this is provided free to the NHS).
- **Molecular Epidemiological Service** (e.g. outbreak investigations, laboratory cross-contamination, provided free to the NHS)
- **Interferon Gamma Release Assay** (latent infection and active TB diagnosis)
- **Primary Isolation Service** including microscopy and culture
- **Fastrack (PCR) Service** (molecular identification of *M.tuberculosis* complex and rifampicin resistance/MDR in primary specimens and cultures)
- **Clinical and Technical Advice**
- **Clinical Advice for case and outbreak investigation and management**
- **Computerised database on laboratory confirmed cases**
- **Archived collection** of Mycobacterium isolates for epidemiological analysis
- **Training**
- **Research and Development**
  
- For further information concerning services or matters of interest visit the HPA web-site at [.HPA.org](http://.HPA.org).

## Services Available

For further information and advice on these services please call 020 7377 5895. Samples/cultures cannot be received after 17.15.

### *Reference Service*

*Turnaround times are dependant upon the receipt of a pure culture containing sufficient bacteria for analysis*

<b>Identification of cultures of AFB</b>	<b>Rapid identification of <u>M.tuberculosis</u> complex and some common non-tuberculous Mycobacteria using PCR-based techniques.</b>  <b>DNA sequencing and phenotypic tests are performed when an identification is not possible by the above method .</b>	<b>For cultures received before 9.30 am results are available at 4.45pm. All other cultures are processed the following day.</b>  <b>A printed report sent out within 2 working days of culture receipt</b>
<b><u>M.tuberculosis</u> first line Sensitivities</b>	<b>Isoniazid, rifampicin, ethambutol, streptomycin, pyrazinamide.</b>	<b>A report sent out within 2-3 weeks of culture receipt</b>
<b>Reserve Drugs</b>	<b>Ofloxacin, moxifloxacin</b>  <b>Amikacin, kanamycin, prothionamide, capreomycin</b>	<b>A report sent out within 2-3 weeks of request for these sensitivities or after identification of rifampicin resistance or MDRTB in referred cultures.</b>
<b>Additional Reserve Drugs</b>	<b>PAS, linezolid</b>	<b>A report sent out within 2-3 weeks of request for these sensitivities or identification of XDRTB</b>

### *Primary Service*

**Microscopy performed within 1 working day of sample receipt.**

**Decontamination and culture of clinical samples on liquid and solid media.**

**Culture of blood and bone marrow.**

**Incubation of inoculated cultures**

**New positives telephoned same day. Report sent out within 1 working day.**

**Final Negative result reported at 6 weeks.**

**NB. Incubation will be continued for 12 weeks, but a further report is not issued unless culture becomes positive**

### *Molecular Epidemiology Service*

**VNTR- MIRU analysis**

**Confirmation of rapid fingerprinting by further VNTR-MIRU analysis (or other appropriate methodology)**

**Preliminary analysis within 5 working days of receipt of a suitable culture.**

**Report telephoned (or final written report) within 6 weeks of receipt of a suitable culture.**

### *Fastrack Service*

**Rapid PCR service for TB and rifampicin resistance detection: eg smear positive samples.**

**Rapid PCR service for TB detection in other samples (where greater sensitivity required) eg CSF**

**Samples before 10 am Monday result telephoned to sending laboratory by Tuesday pm.**

**Samples before 10 am Thursday result telephoned Friday pm.**

**Report sent out within 1 working day of finalisation of result**

### *Interferon Gamma Release Assay*

**Quantiferon Assay**

**Reports sent out within 10 working days of receipt of sample.**

### *Clinical and Technical Advice*

**Incoming calls for clinical and technical advice available Monday-Friday 9.00 to 17.00.**

**Please note that clinical advice calls may be returned up to 22.00.**

## Key factors affecting specimen performance

If a specimen is received at the NMRL, which is unsuitable for examination, we will endeavour to contact the sender to discuss the problem.

If a specimen is submitted to NMRL for an investigation that we do not offer we will temporarily archive the sample/isolate and issue a report to the sender explaining the reasons for the sample's rejection.

### *Reference service*

The time taken to perform bacterial identification and drug susceptibility tests is dependent on the receipt of pure cultures. Cultures that require purification or that cannot be retrieved because they are no longer viable and necessitate a second isolate may increase turnaround time significantly. Our approach is to assist you wherever possible by not rejecting contaminated cultures; however submitting a second culture is usually the best strategy.

If an aliquot of a liquid culture is to be sent then a concentrated sample is best:- i.e. remove 5-10 mls of the liquid culture and centrifuge. Decant the supernatant leaving about 2 ml in the container to re-suspend the deposit. Either leave this in a sterile plastic universal container or transfer to a 2ml sterile cryovial/ microcentrifuge tube for transport.

### *Primary Service*

The specimens to be sent should be as fresh as possible. Nothing should be added to the sample except in the following cases:-

when the specimen is a small piece of tissue in which case sterile saline or water should be added. Do NOT use formal saline as this will kill the mycobacteria.

Blood samples (and Bone Marrow) for culture should be sent in a Vacutainer containing lithium-heparin. (Mycobacterial survival is lower in EDTA tubes).

We strongly recommend that specimens are refrigerated if any delays in submission to the NMRL are likely.

We do not usually perform microscopy on urine specimens, only culture of early morning urine specimens.

### *Fastrack Service*

The ideal specimen is a smear positive sputum or a positive cultures. All other specimens have lower sensitivities for detection although the detection sensitivity for non-formalin fixed tissue biopsies and a proportion of smear-negative sputa specimens are reasonably good (see Sam et al Emerging Infectious Diseases, (2006) 12: 752-9)

In general, dilutional fluid samples (eg CSF, pleural fluid, ascites etc) have much lower sensitivities; the minimum amount of CSF that will be examined is 0.5ml. However submitting the largest possible volume of CSF and other fluids will increase the sensitivity. Please submit as much of these fluids as possible-you can never submit too much!

Lysed blood or heavily bloodstained samples can interfere with PCR based reactions.

DNA in specimens requesting molecular tests may degrade if stored for too long before referral.

Paraffin waxed blocks can be examined but sensitivity is lower than that for fresh tissue. In these cases the whole wax block must be sent. This will be returned to the sender on completion of the Fastrack.

### *Interferon Gamma release Assay*

Blood should be collected in the tubes provided (follow instructions) and incubated for 16-20 hours before sending. If sent before incubation please indicate as such on the form.

### *Contact tracing/case meeting*

We are frequently asked to attend case meetings (or via teleconference) for complex patients and larger contact tracing investigations in institutions such as schools, prisons and health care institutions. We will try and assist where possible but requests with less than 24 hours notice of the meeting are unlikely to be feasible.

### *Referral of Specimens/cultures*

No specimens or cultures are referred to other laboratories. If other investigations are required at another laboratory then it is strongly recommended that a further specimen/culture is sent by the sending laboratory directly.

# NMRL Price List

April 2010-2011

\* = Internal Recharging (NHS/HPA) \*\* = External Recharging

\*\*\* = Outside of outbreak investigations we do not analyse non NHS/HPA cultures without prior agreement.

METHODS	REQUEST	NHS/HPA PRICE * (per isolate/sample)	NON-NHS PRICE ** (per isolate/sample)
Identification of submitted cultures and first line drug testing on solid media (no charge if within the remit of HPA).	ID and Sensitivity	£0	£80
Reserve drugs for DST.		£0	£60
Molecular epidemiology of TB cultures. ***	MIRU/RFLP	£0	£50
Primary specimen receipt and inoculation into standard solid and rapid liquid culture medium.	Standard Culture Rapid Liquid Culture	£33	£45
Blood/bone marrow inoculated into rapid culture vial by sending laboratory or at the NMRL.	Rapid Culture	£30	£40
<u>Fastrack</u> : PCR identification of <i>M.tuberculosis</i> complex and molecular rifampicin testing (includes culture of residential material, identification of resulting culture).	Fastrack	£130	£160
Quantiferon Gold for diagnosis for latent infection and active tuberculosis (based on purchase of 10 tests at a time)	IGRA	£45	£45

# SPECIMEN AND SAMPLE SUBMISSION GUIDELINES

All Specimens **MUST** be labelled with the following:-

Surname/Forename or other Unique Patient Identifier  
Sender's Sample Number

**Request Forms MUST match and include the above information on the sample  
Plus Name and contact information of requester (telephone number vital for urgent requests)**

Tests required  
Specimen type and site  
Sender's Sample Number  
Consultant or GP (if applicable)  
Date of dispatch  
Sex  
Date of Birth  
Relevant clinical information  
NHS number  
Date and time of collection of specimen

Please complete the forms in **BLACK** or **BLUE** pens (NOT **RED** or any other colour).

Please ensure that the correct telephone number is included particularly for Fastrack requests-in our annual audits approximately 15% of request forms do not have the correct telephone number)

The space marked "For NMRL Use only" is intended to record the date and time of receipt at the NMRL. Please do not write in this space.

The HPA NMRL laboratory encourages the proper completion of request forms by advising users if they are inappropriately completed; however, the NMRL supports its users by not rejecting referred specimens and cultures wherever possible.

# 1 GUIDANCE ON PACKAGING SAMPLES

CfI has produced a short film clip to provide guidance for referring laboratories on how to package samples to the required standard.

 [to package samples video \(Quicktime Movie, 3.4 MB\)](#)

A small but significant proportion of samples received by the Centre for Infections (CfI) are poorly or inappropriately packaged. This often leads to samples leaking or being damaged during transport, therefore posing a serious risk to HPA staff handling them. CfI hopes to eliminate this risk by helping laboratories to understand basic packaging requirements.

The following guidelines are intended to cover the transport of clinical samples from humans, or cultures of micro-organisms isolated from such samples to another laboratory for diagnostic or other clinical testing within the U.K. where the micro-organisms suspected of causing the disease are all either Hazard groups 2, 3 or 4.

The terms Category A and Category B are limited to classifying samples / microbial cultures being transported to another laboratory.

Sample Description	Packaging Requirement
Category A samples are known or suspected to contain a microbial agent with the following definition "an infectious substance which is transported in a form that if exposure to it occurs, is capable of causing permanent disability, life-threatening or fatal disease to humans or animals" (see indicative list) The majority are Hazard Group 3 or 4	Assign to UN2814 (Humans) Packaging Instructions PI620 Supporting documentation as per ADR  Transport as category A ADR licensed courier
For practical reasons to allow referral / reference services to continue a limited number of Category A agents have exempted from being transported as Category A. These are Vero-cytotoxin producing Escherichia coli (VTEC), Mycobacterium tuberculosis and Shigella dysenteriae 1	Assign UN3373 Packaging instruction PI650  Send by courier Royal mail will NOT accept
Category B samples are those that do not meet the definitions of Category A	Assign UN3373 Packaging instruction P1650  Post or courier Royal mail WILL accept

These guidelines are not intended as a substitute for reading the advice given by DfT and DoH.

Use the links below for further information.

[://www.dft.gov.uk/stellent/groups/dft\\_freight/documents/page/dft\\_freight\\_611600](http://www.dft.gov.uk/stellent/groups/dft_freight/documents/page/dft_freight_611600).

[://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_](://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_)

<://www.icao.>

<://www.unece.>

**Reporting incidents during transportation that may affect the safety of personnel.**

**The NMRL will report to users any leaking containers and improperly packaged parcels. Repeated offences will be referred to the HPA Safety Committee who may refer to the Health and Safety Executive.**

## Labelling and Packaging (NMRL)

All specimens/cultures sent to the NMRL must be packed in accordance with IATA regulations 650/602.

Label the specimen/culture bottle with the name of the patient (or unique identifier) and the laboratory number.

The top of the specimen/culture bottle must be fixed on firmly so that there is no chance of leakage. It may be necessary to use parafilm to ensure that the top remains on tight during transport. This will also prevent desiccation of the specimen/culture in transit which will compromise successful culture. Wrap the bottle in absorbent material and seal inside a minigrip bag. (The NMRL will endeavour to process the material if leakage occurs but this is likely to compromise the chance of successful culture (if a primary specimen) and we will request the user to send us an additional specimen)

Place the specimen/culture inside a leakproof plastic container with enough absorbent material to be able to absorb all the contents of the bottle in case of leakage.

Place the plastic container inside a fibreboard box.

Place the form between the plastic container and the outer cardboard box. **DO NOT PLACE IT INSIDE THE PLASTIC CONTAINER.** In the event of leakage/breakage the whole shipment will be destroyed without opening.

Specimens may be sent by Royal Mail or Courier. We recommend that to minimise delays specimens are sent by routine courier eg DX or other specialised courier. Please ensure that the courier is likely to be able to reach the NMRL before 1700h.

Cultures can only be sent by courier.

**Reporting incidents during transportation that may affect the quality of the specimen or the safety of personnel.** The NMRL will report to users any leaking containers and improperly packaged parcels. Repeated offences will be referred to the HPA Safety Committee who may refer to the Health and Safety Executive.

## **Faxing and emailing reports containing patients' data.**

It is our policy that reports containing patient data should not be sent by E-mail. E-mails cannot be relied on to guarantee security of patient data because they can be intercepted by a third party on route.

In some circumstances NMRL can send results by fax. In this case the following conditions must be adhered to (refer also to the document "CfI recognition of Caldicott recommendations"):

The report must be sent to a "safe haven" fax machine. This means that, if the location is in general use, consideration must be given to ensuring that unauthorised personnel are unable to read reports, accidentally or otherwise. Also, the room housing the fax machine must be in a secure location, which is locked if it is likely to be unattended at the time the fax is sent.

Assurance must be sought from the intended recipient of the faxed report, preferably in writing, that the receiving fax machine is a safe-haven. If it is essential to fax patient identifiable information to NMRL please speak to the Director's PA who will arrange for someone to receive the fax.

Confirmation must always be sought from the intended recipient that the fax is expected and has been received.

## **Compliance with the Human Tissue Act**

### **Submitting tissue samples from deceased people**

The Centre for Infections is licensed by the Human Tissue Authority (HTA) (Licence number 12459) to store tissues from deceased people for scheduled purposes. Post mortem samples are submitted to CfI by coroners or pathologists for examination to help them determine the cause of death.

As part of our public health remit, we sometimes need to retain these samples for the purpose of public health monitoring which is defined as a scheduled purpose within the [Human Tissue Act 2004](#). Further analysis of these samples may help determine the cause of an outbreak due to an infectious disease or may allow identification of new strains of infectious agents at a later date.

Obtaining consent to remove, store and use human tissues for a scheduled purpose is one of the underlying principles of the Human Tissue Act. CfI receives post-mortem samples from Coroners' post-mortems or from NHS establishments across the UK and therefore we are not in a position to either seek consent ourselves or have arrangements in place to confirm that the requirements of the Act have been complied with by the sender.

We would ask coroners and pathologists who send post mortem samples to CfI to provide us with details of consent, and would also ask that consent includes retention of the samples for the purpose of public health monitoring.

When tissue samples from deceased people are received at the Centre for Infections they are retained securely and confidentiality is maintained in compliance with [Caldicott principles](#) as are all samples received at this centre. It is normal practice for tissue samples from the deceased to be disposed of in the same way that all other clinical samples we receive at CfI are disposed of. However, we will adhere to any specific requirements regarding disposal or returning tissue samples if requested by the sending coroner or pathologist.

## **CfI recognition of Caldicott recommendations**

The recommendations of the Caldicott report (1997) have been adopted by the Health Protection Agency as by the national Health Service as a whole. These recommendations relate to the security of patient identifying data (PID) and the uses to which they are put. The Centre for Infections (CfI) observes Caldicott guidance in handling PID and has appointed its own Caldicott Guardian. He advises the Director, CfI, on confidential issues and is responsible for monitoring the physical security of PID in all parts of CfI. This also applies to the transfer of results of investigations to and from CfI whether by mail services, telephone or fax. The value of 'safe haven' arrangements or other means of the sender and receiver information identifying themselves to each other before data is transferred is emphasised (see attached CfI Policy on faxing and emailing reports containing patient data).

CfI is anxious to audit the security of its PID in collaboration with its customers. Customers are invited to review our arrangements in conjunction with individual laboratory directors and/or the Caldicott Guardian. Customers are also asked to draw to the Caldicott Guardian's attention any instances where PID security has been threatened or has broken down. Uses that PID are put to outside clinical diagnostic services generally allow patient identifiers to have been removed before hand, and when PID is used for research purposes the proposals are considered first by the appropriate Ethics Committee. All enquiries about the security and use of PID should be addressed to the Caldicott Guardian, Dr Barry Evans; email: [.evans@hpa.org](mailto:.evans@hpa.org).)

## Key References

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## Forms to accompany specimens/cultures

The following forms can be downloaded from the HPA website ([.HPA.org](http://.HPA.org)) and are designed to be easy to photocopy.

- **Reference culture submission form**
- **Fastrack form**
- **Molecular epidemiology request form**

**Health Protection Agency,  
National Mycobacterium Reference  
Laboratory**

Abernethy Building,  
2 Newark Street, Whitechapel  
London E1 2AT  
Tel. 020 73775895 Fax. 020 75393459

For NMRL USE ONLY

Received: \_\_\_\_\_


**NMRL Reference No**

Film results +/A/O/AFB/Cx  
Liquid Solid Pigmented Cx

**PLEASE WRITE CLEARLY IN BLACK BALL POINT**

<p><b>Patients details</b></p> <p>Surname _____</p> <p>Forenames _____</p> <p>Address _____</p> <p>Post code _____</p> <p>Date of birth ____ / ____ / ____</p> <p>Sex: Male <input type="checkbox"/> Female <input type="checkbox"/> Don't know <input type="checkbox"/></p> <p>Prior TB therapy? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>if YES, when? _____</p> <p>Immunosuppressed: Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/></p> <p>Weight loss: Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/></p> <p>Fever? Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/></p> <p>Other clinical info _____</p> <p>_____</p>	<p>Source lab _____</p> <p>Address _____</p> <p>Post Code _____</p> <p>Telephone _____ Ext _____</p> <p>Lab Consultant _____</p> <p>Your lab no: _____ Purchase Order No _____</p> <p>Specimen collection date ____ / ____ / ____ time _____</p> <p>Specimen type _____</p> <p>Is it a: Positive Culture <input type="checkbox"/> Primary Specimen <input type="checkbox"/></p> <p>Was it: Smear positive <input type="checkbox"/> Not done <input type="checkbox"/></p> <p style="padding-left: 40px;">Smear negative <input type="checkbox"/> Unknown <input type="checkbox"/></p> <p>Clinical / Patients' Consultant _____</p>
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**Examination required:** Identification & Sensitivities  Extra Sensitivities  Other \_\_\_\_\_

Microscopy  Culture  NB for Fastrack investigations please use a Fastrack form.

**Please answer the following questions**

If previous TB, what was the treatment? \_\_\_\_\_

What was the site of the TB? \_\_\_\_\_

Ethnic origin: African  Caribbean  Indian Sub Continent  White  Mixed  Unknown  Other

Country of origin \_\_\_\_\_

Other relevant information \_\_\_\_\_

Invoice Address (if different from above)

\_\_\_\_\_

\_\_\_\_\_

NMRL reference number

# NMRL Fastrack

**Health Protection Agency,**  
**National Mycobacterium Reference Laboratory,**  
Abernethy Building,  
2 Newark Street, Whitechapel  
London E1 2AT  
Tel. 020 73775895 Fax. 020 75393459

For NMRL USE ONLY

WHO Supranational Reference Laboratory & European Co-ordinating Centre

NMRL LAB. No. \_\_\_\_\_

NMRL received \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Please note that the cost for this Fastrack service is £130.00 (NHS/HPA) or £160 (Non-NHS)

Fastrack is a service to detect the presence of *Mycobacterium tuberculosis* complex mainly in primary specimens, by molecular amplification techniques. A test, which includes an indication of rifampicin resistance is performed on specimens and positive cultures as part of fastrack.

A slightly more sensitive test, which only detects the presence of *Mycobacterium tuberculosis* complex, can be done on samples where sensitivity is the main concern (C.S.F's).

NB. Smear negative samples should be discussed with our laboratory Clinical staff.

**Specimen type\*:** \_\_\_\_\_ is it the original sample  or a Positive Culture   
(\*untreated if possible)

For C.S.F.'s a minimum of 0.5ml is needed; two samples should be sent wherever possible (one charge covers both specimens).

**Smear result;** was it: Positive  Negative  Not done  Unknown

**Rifampicin Resistance:** Reason for request  Person on treatment now  Poor clinical progress

Please complete all the following details: **Specimen collection date** \_\_\_\_\_ **time** \_\_\_\_\_

**Patient's name:** Last \_\_\_\_\_ First: \_\_\_\_\_ Middle: \_\_\_\_\_

**D.O.B:** \_\_\_\_ / \_\_\_\_ / \_\_\_\_ **Sex :** M / F / Unknown. **Patient address:** \_\_\_\_\_ **Post Code:** \_\_\_\_\_

**Has TB been diagnosed previously?** Yes / No / Unknown. **HIV status:** Positive / Negative / Unknown

Brief case history including treatment: \_\_\_\_\_

If CSF: White cells: \_\_\_\_\_ Lymphocytes: \_\_\_\_\_ Neutrophils: \_\_\_\_\_ Red Cells: \_\_\_\_\_

Glucose: \_\_\_\_\_ Protein: \_\_\_\_\_ Blood Glucose: \_\_\_\_\_

Immunocompromised? Yes  No  Don't know  Weight loss: Yes  No  Don't know

Fever? Yes  No  Don't know  Abnormal CXR: Yes  No  Don't know

**Source lab** \_\_\_\_\_ **Your Lab No:** \_\_\_\_\_ **Purchase Order No** \_\_\_\_\_

**Address** \_\_\_\_\_

**Lab. Consultant** \_\_\_\_\_ **Telephone** \_\_\_\_\_ **Ext. /Bleep** \_\_\_\_\_

**Invoice Address** (if different) \_\_\_\_\_

## Authorisation

I, the undersigned, authorise the NMRL to carry out Fastrack investigations, at a cost (see above), on this sample. I have included all relevant information, including Purchase Order Number if required, and I understand I will receive invoices for these services addressed to me for payment and accept responsibility for payments.

**Signed:** \_\_\_\_\_ **Date:** \_\_\_\_ / \_\_\_\_ / \_\_\_\_

**Please Print Name:** \_\_\_\_\_

This form must accompany each specimen submitted. Invoice will be issued to source laboratory.

# Mycobacterium tuberculosis Molecular Epidemiology Request Form.

Health Protection Agency, National Mycobacterium Reference Laboratory,  
Abernethy Building, 2 Newark Street, Whitechapel, London E1 2AT  
Tel. 020 73775895 Fax. 020 75393459

**Cultures will be examined at no charge if the result is likely to affect clinical management or if there is a significant danger to Public Health as indicated by the information provided below. This form must be completed for each TB culture referred to the MRU.**

Surname: \_\_\_\_\_ First Name: \_\_\_\_\_ Middle Initial: \_\_\_\_\_

Sex: Male  Female:  Date of Birth: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Patient's Consultant: \_\_\_\_\_ Consultant's Tel No: \_\_\_\_\_

Case Notified: Yes  No:  Notifying Doctor: \_\_\_\_\_

Consultant in Communicable Disease Control (CCDC): \_\_\_\_\_ Dr \_\_\_\_\_

Patient's Address: \_\_\_\_\_ Post Code: \_\_\_\_\_

Patient's Hospital No: \_\_\_\_\_ Microscopy: Smear +ve? Yes  No

4+ 3+ 2+ 1+ +/- (please circle)

Reference Lab: \_\_\_\_\_ Your Lab No: \_\_\_\_\_

Drug Susceptibilities: R=Resistant S=Sensitive

	S	R	B
Isoniazid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rifampicin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pyrazinamide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ethambutol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Streptomycin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ciprofloxacin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B=Borderline

	S	R	B
Ethionamide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cycloserine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Amikacin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Capreomycin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PAS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clarithromycin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Patients Clinical Details: (In complete confidence)

	Yes	No
Fever	<input type="checkbox"/>	<input type="checkbox"/>
Weight Loss	<input type="checkbox"/>	<input type="checkbox"/>
Productive Sputum	<input type="checkbox"/>	<input type="checkbox"/>
Haemoptysis	<input type="checkbox"/>	<input type="checkbox"/>
HIV Positive	<input type="checkbox"/>	<input type="checkbox"/>
Immunocompromised	<input type="checkbox"/>	<input type="checkbox"/>

Date of Diagnosis: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

CXR: Abnormal? Yes  No

If yes, what abnormality? \_\_\_\_\_

Chemotherapy? \_\_\_\_\_

Other clinical details: \_\_\_\_\_

Is the culture related to a possible outbreak? Yes  No

Index Case (if known) \_\_\_\_\_

Place of contact: \_\_\_\_\_

Why do you think this is an outbreak? \_\_\_\_\_

Do you agree to provide further information to the MRU if needed? Yes  No

Is the culture a lab contaminant: Yes  No  Is the culture a bronchoscope contaminant: Yes  No

If yes, please give details \_\_\_\_\_

Doctor Submitting Culture: \_\_\_\_\_ (Block Capitals)

Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_ Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_