NHS South West NHS Genomic Laboratory Hub

Lymphoma Service

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Sample Required

FISH: 4 µm thick formalin fixed paraffin embedded tumour tissue sections mounted on APES or 'sticky' slides for each test required with an accompanying H&E slide with regions of tumour highlighted.

MOLECULAR Analysis: Snap frozen fresh tissue, fresh tissue in transport media, bone marrow in transport media or blood in EDTA (>20% disease presence required)

FFPE Analysis: Sample with >20% neoplastic cells: 5 x 10µm sections in a clean universal
Sample with <20% neoplastic cells: 10 x 5µm sections

FULLY completed request form (available as download at www.nbt.nhs.uk/genetics or from the laboratory).

Please include details of the test required, family history, address and POSTCODE, NHS number, referring clinician and centre.

Consent and Storage:

All genetic testing requires consent. **It is the responsibility of the referring clinician to ensure that appropriate consent has been obtained.**

DNA is stored from **ALL** patients undergoing DNA testing, unless consent for this is specifically denied.

Clinical Background and Genetics

- Lymphomas are a group of diseases caused by malignant lymphocytes that accumulate in lymph nodes and cause the clinical features of lymphadenopathy.
- The classification of lymphomas is either Hodgkin's lymphoma or non-Hodgkin's lymphoma where subdivision is based on the presence of Reed-Sternberg cells in the disease tissue of Hodgkin's lymphoma.
- Routine diagnosis is performed using histomorphology, immunochemistry and flow cytometry. However, differential diagnosis between reactive lymphoproliferations and malignant lymphomas can be problematic.
- Immunoglobulin (Ig) and/or T-cell receptor (TCR) clonality assessment and fluorescence *in situ* hybridisation (FISH) are adjunctive methods to support the diagnosis of non-Hodgkin lymphoma (NHL).
- Immunoglobulin (Ig) and/or T-cell receptor (TCR) clonality assessment can aid in the differential diagnosis between reactive lymphoproliferations and malignant lymphomas.
- FISH can identify specific gene rearrangements providing diagnostic and prognostic information, guiding risk stratification.
- Next Generation Sequencing (NGS) gene panel testing is emerging as a powerful tool to support diagnosis and risk stratification in Lymphoma

Services offered

- Identiclone PCR Kits provide a standardised strategy for clonality assessment in patients with suspect lymphoproliferations.
- Differential fluorescence detection is used to resolve amplicons using capillary electrophoresis on the CEQ or ABI 3730 anlaysers.
- We offer a range of FISH testing using CE marked probes, which can be undertaken on formalin-fixed paraffin-embedded (FFPE) samples.
- Results are interpreted in the context of clinical, histological and immunophenotypic data.
- The addition of the TruSight Oncology 500 DNA panel (TSO 500) into the NGS repertoire at BGL provides further/extended analysis if required.
- BGL is part of the Bristol Haemato-oncology Diagnostic Service (BHODs) (https://www.nbt.nhs.uk/severn-pathology/pathology-services/haematological-malignancy-diagnostics-sihmds) and the South West Genetics Laboratory Hub (SW GLH https://www.nbt.nhs.uk/south-west-genomic-laboratory-hub).
- Please refer to the National Genome Test Directory for the range of tests available. https://www.england.nhs.uk/publication/national-genomic-test-directories/

Target reporting Time

B or T cell clonality assessment	14 days
FISH rapid	3 days
FISH (FFPE) analysis	7 days
NGS analysis	21 days

Quality
BGL participates in the relevant UK NEQAS for Leucocyte Immunophenotyping and GenQA schemes

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