SydPath
ST VINCENT'S PATHOLOGY

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CELL SURFACE MARKERS INFORMATION SHEET

TEST	INDICATION	INTERPRETATION
T CELLS (HIV INFECTION)	• Monitoring peripheral blood CD4 counts in known HIV positive patients	• See information sheet on HIV/AIDS
T AND B CELLS (PERIPHERAL BLOOD LYMPHOCYTE SUBSETS)	• Monitoring cytotoxic or immunosuppressive therapy • Monitoring recovery after bone marrow transplantation • Investigation of immunodeficiency	• Enumerates total T cells (CD3), T cell subsets (CD4, CD8), total B cells (CD19) and total NK cells (CD16 and/or CD56) • SydPath reference intervals are for adults. Intervals are different in children under age 6; see RCPA manual • CD4:CD8 ratio (reference range 1.4-3.7) is typically less than 1 in untreated HIV, EBV, CMV • CD8 count may be markedly elevated in viral infections, especially EBV and HIV
IMMUNOPHENOTYPING FOR LEUKAEMIA OR LYMPHOMA	• Suspected leukaemia / lymphoma • Investigation of lymphocytosis • Monitoring of leukaemia / lymphoma • As well as blood, can be performed on bone marrow aspirates, lymph node and other biopsies, fine needle aspirates, and pleural, peritoneal and other body fluids	• Identifies cell lineage in leukaemia / lymphoma. Diagnosis should not be made on cell surface markers alone, but in conjunction with clinical features, morphology, cytogenetics etc • Kappa and lambda light chains are routinely tested to determine clonality of B cell disorders; exclusive presence of either kappa or lambda on B cells indicates monoclonal population • Detection of Vbeta component of the T cell receptor may be requested to determine clonality of T cell disorders; exclusive presence of one Vbeta indicates a monoclonal population • Pathologist's interpretation is provided with reports

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IMMUNOPHENOTYPING FOR LEUKAEMIA OR LYMPHOMA COMMON PATTERNS

Disorder: Immunophenotype

Chronic Lymphocytic Leukaemia (CLL): B cells (CD19, 20 pos) with exclusive kappa or lambda and 4-5 of the following 5 features: CD5 pos, CD22 dim/neg, CD23 pos, FMC7 neg and light chain dim. This phenotype in the blood, combined with an abnormal cell count of >5 x 109/L, and consistent morphology and clinical features, is sufficient for a diagnosis of CLL.

Monoclonal B Cell Lymphocytosis (MBL): B cells (CD19, 20 pos) usually with a CLL phenotype, but <5 x 109/L abnormal blood cells.

B-Non Hodgkins Lymphoma: B cells (CD19, 20 pos WITH kappa or lambda and 0-2 of the 5 CLL features listed above. (Cells with 3 of the 5 CLL features are difficult to classify). Confirmation of B-NHL diagnosis, and further classification, depends on tissue sampling and a combination of clinical, morphological, flow cytometry and other laboratory findings.