

Leucocyte specific protein 1

CONTACT INFORMATION:	LRF Haemato-oncology Group. University of Oxford
STATUS:	Validated
TYPE:	mouse anti human
CLONE NAME:	TPD153
PROTEIN:	LSP-1
ANTIGEN USED:	Tonsil cells
FUSION PARTNER:	NS1
ISOTYPE:	IgG1
SPECIES REACTIVITY:	human
PREPARATION AND STORAGE:	Aliquot and store at 4°C. Do not freeze
APP RECOMMENDED:	IHQ-frozen, IHQ-paraffin, IF, WB, IP, Flow cytometry

DESCRIPTION

The antibody detects an intracellular antigen in peripheral blood B cells, monocytes and granulocytes and the 85-90% circulating T cells. Medullary but not cortical thymocytes express LSP1. Plasma cells, dendritic cells and Langerhans cells were also LSP1+ve. The protein was detected in a wide range of leukaemias and non-Hodgkin s lymphomas and the tumour cells in classical Hodgkin \s lymphoma. Reciprocal expression was noted between LSP1 and ALK expression in ALCL. A combination of LSP1 and anti-CD45 may be useful for identifying haematological malignancies which have decreased CD45 expression. LSP1 expression is also of use for the diagnosis of T-cell rich B-cell lymphoma from lymphocyte-rich Hodgkin s lymphoma.

REFERENCES

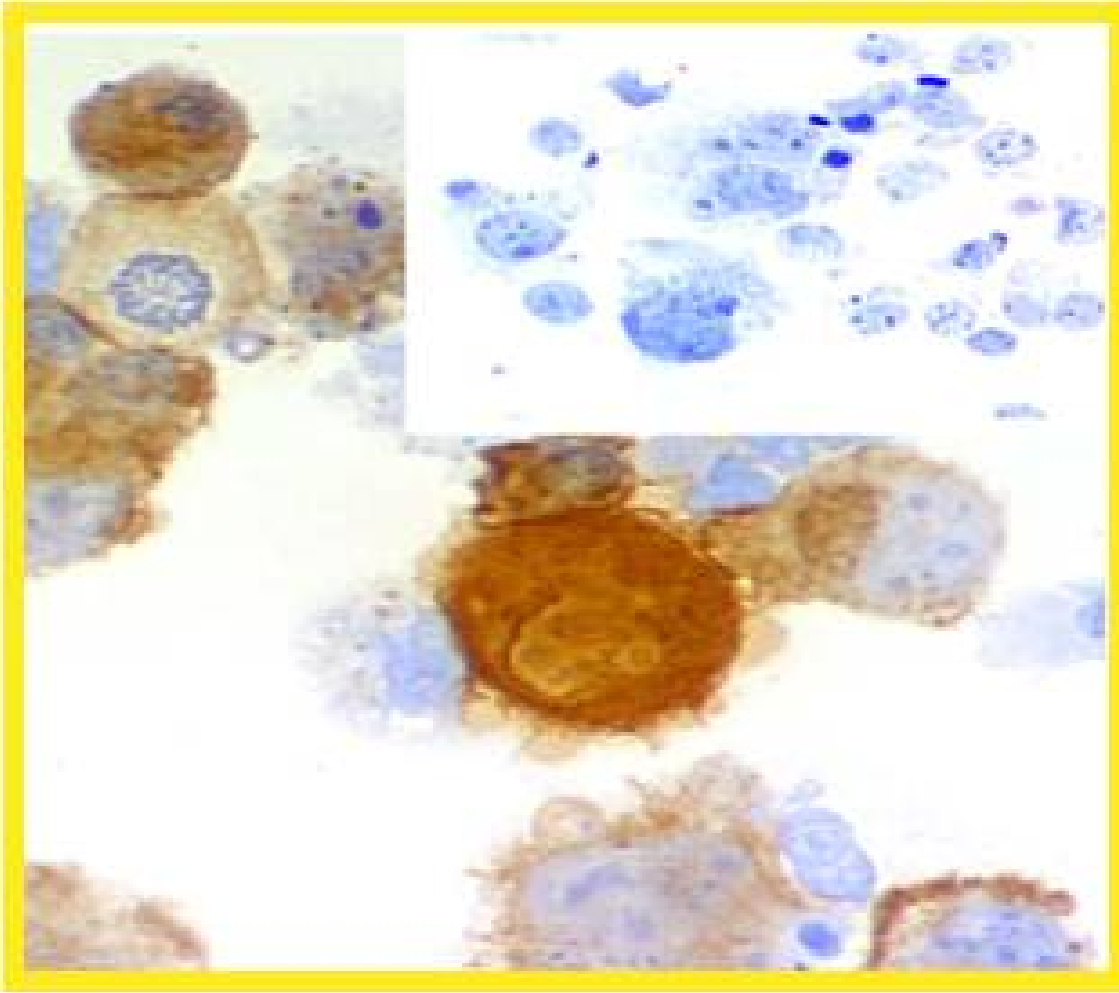
Marafioti T, Mancini C, Ascani S, Sabattini E, Zinzani PL, Pozzobon M, Pulford K, Falini B, Jaffe ES, Müller-Hermelink HK, Mason DY, Pileri SA. Leukocyte-specific phosphoprotein-1 and PU.1: two useful markers for distinguishing T-cell-rich B-cell lymphoma from lymphocyte-predominant Hodgkin \s disease. *Haematologica*. 2004 Aug;89(8):957-64.

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 Leucocyte-specific protein (LSP1) in malignant lymphoma and Hodgkin s disease
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Pulford K, Jones M, Banham AH, Haralambieva E, Mason DY
 Lymphocyte-specific protein 1: a specific marker of human leucocytes.
 Immunology. 1999 Feb;96(2):262-71

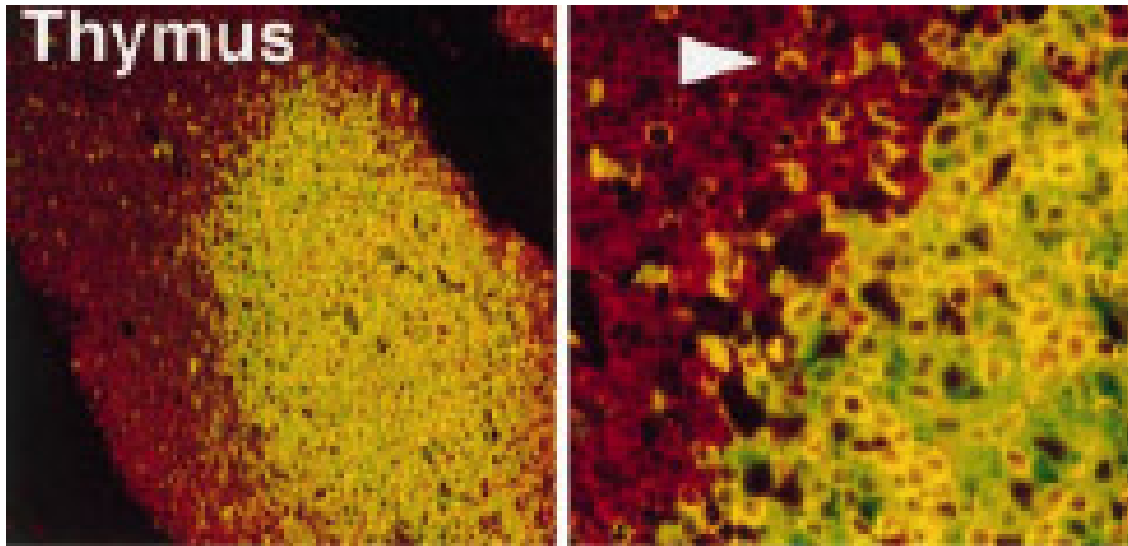
APPLICATIONS

IHC Techniques	Clone	Dilution	Antibody concentration	Antigen retrieval method	Visualization kit	Positive control	Negative control	Protein localization	Positivity in other species
Frozen tissue and cytopins									
Recommended	TPD15 3	Neat	Supernatant		Indirect immunoperoxidase or APAAP	anti-BCL2	Mouse IgG1	Intracellular	Not known
Paraffin tissue									
Recommended	TPD15 3	1/5	Supernatant		Envision	As above	Universal negative	Intracellular	
Immunofluorescence									
Recommended	TPD15 3	1/10	Supernatant		Directly conjugated antibody	As above	As above	Intracellular	



Antibody TPD153 in transfectants

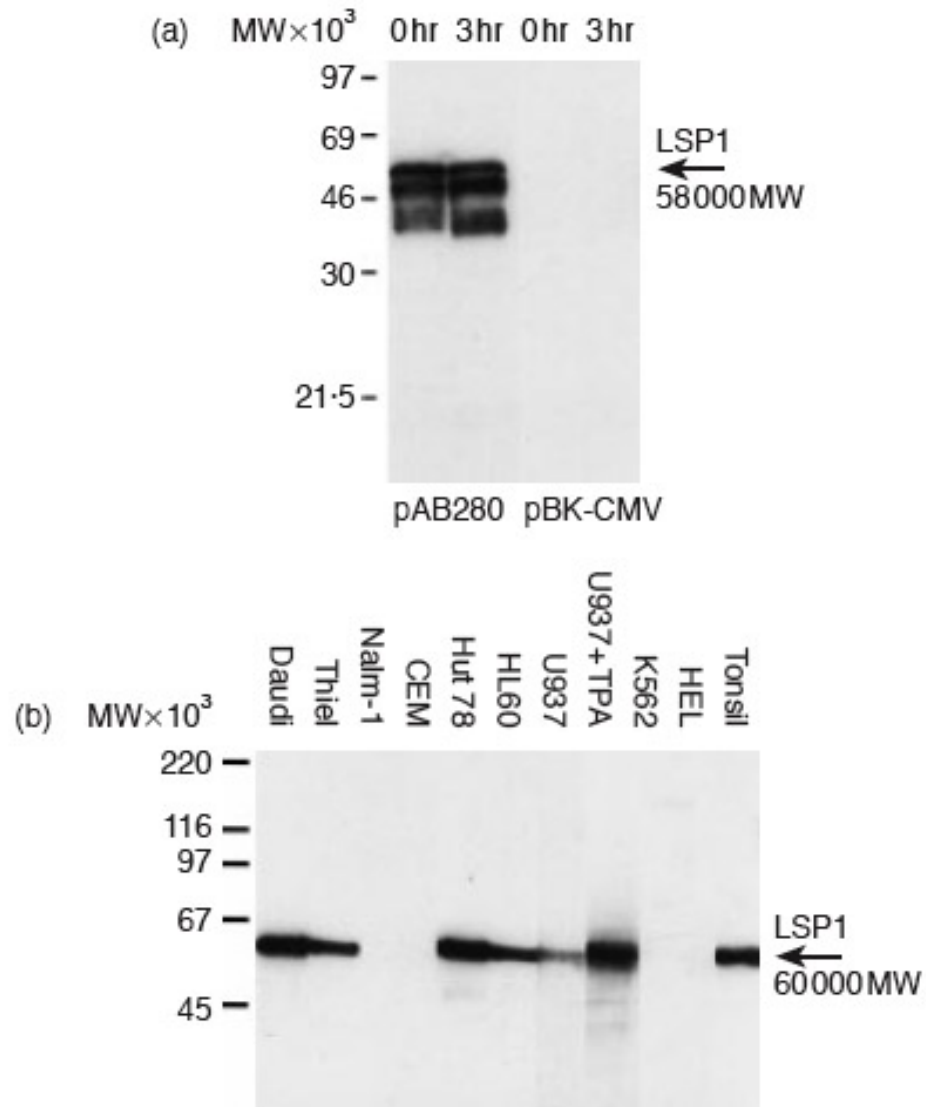
Antibody TPD153 stained LSP1 transfectants. Inset is vector only control



Immunofluorescent labelling of thymus to show LSP1 expression.

LSP1 (green) is expressed in the CD3-positive (red) cells present in the medulla while only a minority of cortical CD3-positive cells express LSP1 (arrow).

WB Techniques	Clone	Dilution	Antibody concentration	Positive control	Negative control	Expected MW	Observed Mw	Positivity in other species
Western Blotting								
Recommended	TPD153	Neat	Supernatant	anti-BCL2	Mouse IgG1	60 kD	60 kD	
Immunoprecipitation								
Recommended	TPD153	As above	As above	As above	As above	60 kD	60 kD	



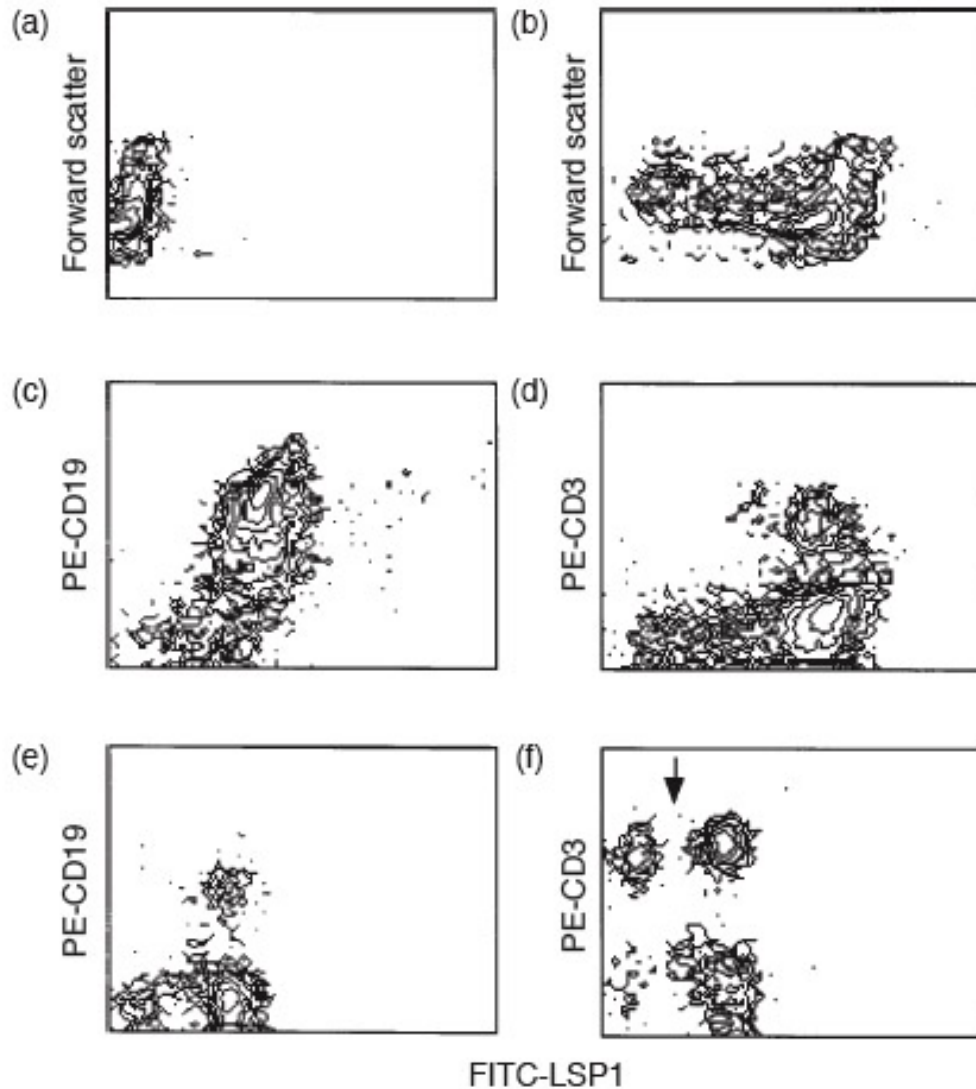
Western blotting studies on LSP1

a) Antibody TPD153 recognises LSP1 transfectants (pAB280) but not the empty vector (pBK-CMV).

b) Presence of the 60 kD LSP1 protein in tonsil and a range of haematologically-derived cell lines.

Monoclonal Antibodies Catalogue

FLOW CYTOMETRY	Clone	Dilution	Positive control	Negative control	Type of fluorocrom
Recommended	TPD513	1/10	Anti-BCL2	Mouse IgG1	FITC



Flow cytometry of the LSP1 protein on tonsil and blood cells.

a) LSP1 protein is undetectable in unpermeabilised tonsil cells but expressed in b) more than 95% of permeabilised tonsil cells. c), d), e) and f) show the presence of LSP1 protein in both single and double labelling of permeabilised peripheral blood cells.