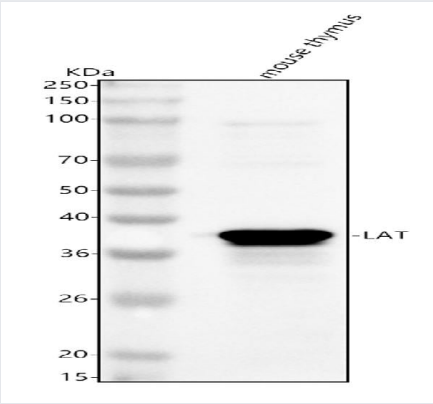
LAT Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

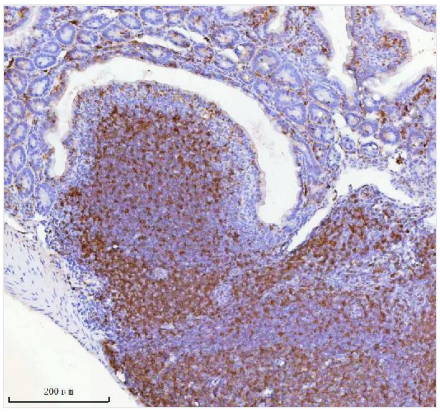
Product Name	Lat, Polyclonal Antibody
Full Product Name	Anti-Lat Antibody Picoband
Product Gene Name	anti-Lat antibody
Product Synonym Names	Serine/threonine-protein kinase AtPK1/AtPK6; 70 kDa ribosomal protein S6 kinase 1 antibody, KS6B1_HUMAN antibody, p70 alpha antibody, P70 beta 1 antibody, p70 ribosomal S6 kinase alpha antibody, p70 ribosomal S6 kinase beta 1 antibody, p70 S6 kinase alpha antibody, P70 S6 Kinase antibody, p70 S6 kinase alpha 1 antibody, p70 S6 kinase alpha 2 antibody, p70 S6K antibody, p70 S6K-alpha antibody, p70 S6KA antibody, p70(S6K) alpha antibody, p70(S6K)-alpha antibody, p70-alpha antibody, p70-S6K 1 antibody, p70-S6K antibody, P70S6K antibody, P70S6K1 antibody, p70S6Kb antibody, PS6K antibody, Ribosomal protein S6 kinase 70kDa polypeptide 1 antibody, Ribosomal protein S6 kinase beta 1 antibody, Ribosomal protein S6 kinase beta-1 antibody, Ribosomal protein S6 kinase I antibody, RPS6KB1 antibody, S6K antibody, S6K-beta-1 antibody, S6K1 antibody, Serine/threonine kinase 14 alpha antibody, Serine/threonine-protein kinase 14A antibody, STK14A antibody
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Mouse, Rat
Form/Format	Lyophilized. Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
Purity/Purification	Immunogen affinity purified.
Specificity	Expressed in all tissues.
Preparation and Storage	At -20 degree C for one year from date of receipt. After reconstitution, at 4 degree C for one month. It can also be aliquotted and stored frozen at -20 degree C for six months.Avoid repeated freezing and thawing.
Molecular Weight	26,015 Da
3D Structure	ModBase 3D Structure for O54957
Immunogen	E coli-derived mouse Lat recombinant protein (Position: R29-E217). Mouse Lat shares 68.4% and 93.1% amino acid (aa) sequence identity with human and rat Lat, respectively.
Subcellular Localization	Cytoplasm, Nucleus
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500ug/ml.
Cross Reactivity	No cross reactivity with other proteins.
Protein Function	Downstream effector of TOR signaling pathway involved in osmotic stress response. Could be involved in the control of plant growth and development. Phosphorylates the ribosomal proteins P14, P16 and S6. Functions as a repressor of cell proliferation and required for maintenance of chromosome stability and ploidy levels through the RBR1-E2F pathway.
Product Categories/Family for anti-Lat antibody	Primary Antibodies; Signal Transduction; Signaling Pathway; Small G Proteins
ISO Certification	Manufactured in an ISO 13485:2003 and EN ISO 13485:2012 Certified Laboratory.
Applications Tested/Suitable for anti-Lat antibody	Western Blot (WB), Immunohistochemistry (IHC), Flow Cytometry (FC/FACS), ELISA (EIA)

Application Notes for anti-Lat antibody	WB: 0.1-0.25ug/ml, Mouse IHC: 2-5ug/ml, Mouse, Rat FC/FACS (Fixed): 1-3ug/1x10^6 cells, Mouse ELISA: 0.1-0.5ug/ml
Related Product Information for anti-Lat antibody	The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Product References and Citations for anti-Lat antibody	1. Aguado, E., Richelme, S., Nunez-Cruz, S., Miazek, A., Mura, A.-M., Richelme, M., Guo, X.-J., Sainty, D., He, H.-T., Malissen, B., Malissen, M. Induction of T helper type 2 immunity by a point mutation in the LAT adaptor. Science 296: 2036-2040, 2002. 2. Bacchelli, C., Moretti, F. A., Carmo, M., Adams, S., Stanescu, H. C., Pearce, K., Madkaikar, M., Gilmour, K. C., Nicholas, A. K., Woods, C. G., Kleta, R., Beales, P. L., Qasim, W., Gaspar, H. B. Mutations in linker for activation of T cells (LAT) lead to a novel form of severe combined immunodeficiency. J. Allergy Clin. Immun. 139: 634-642, 2017.3. Hundt, M., Tabata, H., Jeon, M.-S., Hayashi, K., Tanaka, Y., Krishna, R., De Giorgio, L., Liu, Y.-C., Fukata, M., Altman, A. Impaired activation and localization of LAT in anergic T cells as a consequence of a selective palmitoylation defect. Immunity 24: 513-522, 2006.
Other Notes	Small volumes of anti-Lat antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for Lat purchase	MBS1758221 is an antibody targeting Lat. Also known as Anti-Lat Antibody Picoband. Reactive in Mouse, Rat. Host: Rabbit.



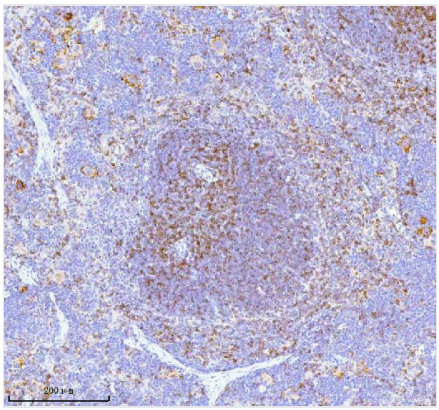
Western Blot (WB) of anti-Lat antibody

Figure 1. Western blot analysis of Lat using anti-Lat antibody (MBS1758221).Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel)/90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.Lane 1: mouse thymus tissue lysates.After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-Lat antigen affinity purified polyclonal antibody (#MBS1758221) at 0.25ug/mL overnight at 4 degree C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (#MBS176460) with Tanon 5200 system. A specific band was detected for Lat at approximately 38 kDa. The expected band size for Lat is at 26 kDa.



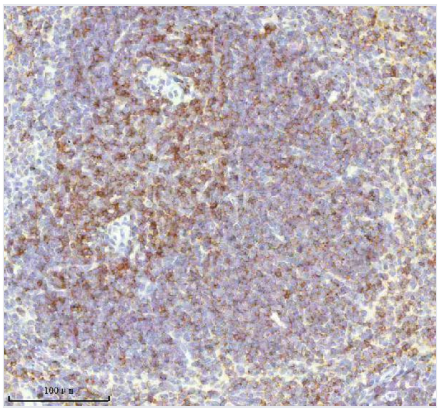
Immunohistochemistry (IHC) of anti-Lat antibody

Figure 2. IHC analysis of Lat using anti-Lat antibody (MBS1758221).Lat was detected in a paraffin-embedded section of mouse intestinal lymph nodes tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-Lat Antibody (MBS1758221) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (#MBS176453) with DAB as the chromogen.



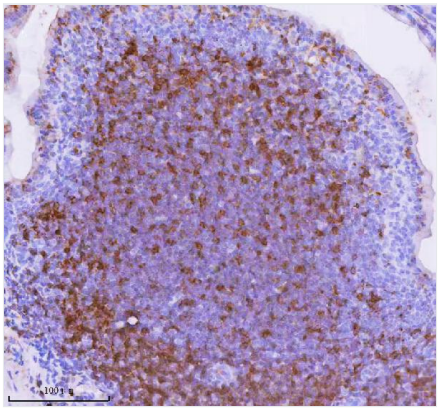
Immunohistochemistry (IHC) of anti-Lat antibody

Figure 3. IHC analysis of Lat using anti-Lat antibody (MBS1758221).Lat was detected in a paraffin-embedded section of mouse spleen tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-Lat Antibody (MBS1758221) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (#MBS176453) with DAB as the chromogen.



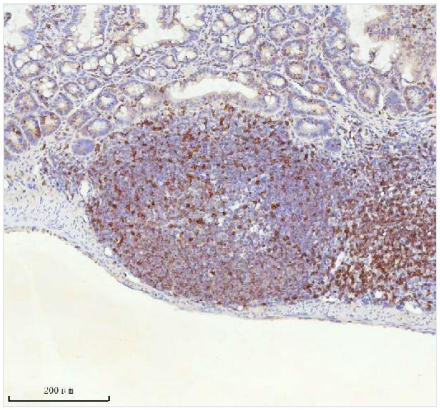
Immunohistochemistry (IHC) of anti-Lat antibody

Figure 4. IHC analysis of Lat using anti-Lat antibody (MBS1758221).Lat was detected in a paraffin-embedded section of mouse spleen tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-Lat Antibody (MBS1758221) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (#MBS176453) with DAB as the chromogen.



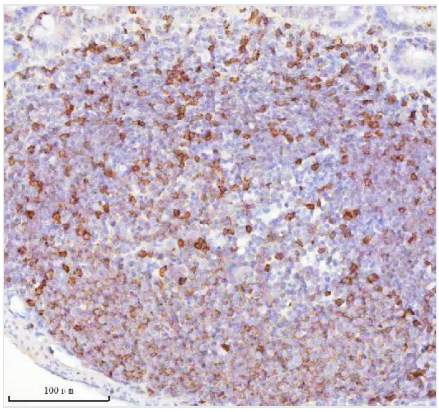
Immunohistochemistry (IHC) of anti-Lat antibody

Figure 5. IHC analysis of Lat using anti-Lat antibody (MBS1758221).Lat was detected in a paraffin-embedded section of mouse intestinal lymph nodes tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-Lat Antibody (MBS1758221) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (#MBS176453) with DAB as the chromogen.

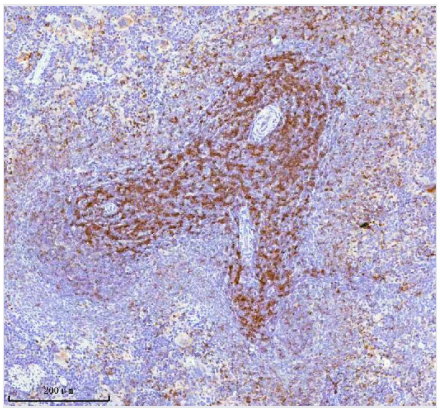


Immunohistochemistry (IHC) of anti-Lat antibody

Figure 6. IHC analysis of Lat using anti-Lat antibody (MBS1758221).Lat was detected in a paraffin-embedded section of rat intestinal lymph nodes tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-Lat Antibody (MBS1758221) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (#MBS176453) with DAB as the chromogen.



Immunohistochemistry (IHC) of anti-Lat antibody
Figure 7. IHC analysis of Lat using anti-Lat antibody (MBS1758221).Lat was detected in a paraffin-embedded section of rat lymph node tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-Lat Antibody (MBS1758221) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (#MBS176453) with DAB as the chromogen.



Immunohistochemistry (IHC) of anti-Lat antibody
Figure 8. IHC analysis of Lat using anti-Lat antibody (MBS1758221).Lat was detected in a paraffin-embedded section of rat spleen tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-Lat Antibody (MBS1758221) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (#MBS176453) with DAB as the chromogen.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for Lat. It may not necessarily be applicable to this product.

NCBI GI #	6754510
NCBI GeneID	16797
NCBI Accession #	NP_034819.1
UniProt Primary Accession #	O54957
UniProt Related Accession #	O54957
GenBank Nucleotide #	NM_010689.3
NCBI Official Full Name	linker for activation of T-cells family member 1
NCBI Official Synonym Full Names	linker for activation of T cells
NCBI Official Symbol	Lat
NCBI Official Synonym Symbols	pp36; p36-38
UniProt Protein Name	Linker for activation of T-cells family member 1
UniProt Synonym Protein Names	36 kDa phospho-tyrosine adapter protein; pp36; p36-38
Protein Family	L-lysine-epsilon aminotransferase
UniProt Gene Name	Lat
UniProt Synonym Gene Names	pp36
NCBI Protein Information	linker for activation of T-cells family member 1
UniProt Comments for Lat	Required for TCR (T-cell antigen receptor)- and pre-TCR-mediated signaling, both in mature T-cells and during their development. Involved in FCGR3 (low affinity immunoglobulin gamma Fc region receptor III)-mediated signaling in natural killer cells and FCER1 (high affinity immunoglobulin epsilon receptor)-mediated signaling in mast cells. Couples activation of these receptors and their associated kinases with distal intracellular events such as mobilization of intracellular calcium stores, PKC activation, MAPK activation or cytoskeletal reorganization through the recruitment of PLCG1, GRB2, GRAP2, and other signaling molecules.
Research Articles on Lat	**1.** IFT20 is required for the delivery of the intracellular pool of LAT to the immune synapse in naive primary T lymphocytes.

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