

LIME (D-6): sc-166817

BACKGROUND

Lck-interacting molecule (LIME) is a 295 amino acid transmembrane adaptor protein primarily expressed in hematopoietic and lung cells. LIME has a short extracellular domain and a cytoplasmic tail containing five tyrosine-based motifs. LIME becomes tyrosine-phosphorylated after the CD4 or CD8 co-receptors cross-link. The phosphorylated LIME interacts with Lck, the Src family kinase and Csk, its negative regulator. LIME is expressed during the early and late stages of T cell activation and appears to be involved in regulation of T cell activation by co-receptors. It may be involved in activation of the ERK and JNK (both are part of the mitogen-activated protein kinase family) pathways in T cells. Bcr-mediated B cell activation may also involve LIME.

REFERENCES

1. Brdicková, N., et al. 2003. LIME: a new membrane raft-associated adaptor protein involved in CD4 and CD8 co-receptor signaling. *J. Exp. Med.* 198: 1453-1462.
2. Hur, E.M., et al. 2003. LIME, a novel transmembrane adaptor protein, associates with p56^{Lck} and mediates T cell activation. *J. Exp. Med.* 198: 1463-1473.
3. Simeoni, L., et al. 2004. Adaptors and linkers in T and B cells. *Curr. Opin. Immunol.* 16: 304-313.
4. Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 609809. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Lovatt, M., et al. 2006. Lck regulates the threshold of activation in primary T cells, while both Lck and Fyn contribute to the magnitude of the ERK response. *Mol. Cell. Biol.* 26: 8655-8665.
6. Tedoldi, S., et al. 2006. Transmembrane adaptor molecules: a new category of lymphoid-cell markers. *Blood* 107: 213-221.
7. Ahn, E., et al. 2006. LIME acts as a transmembrane adapter mediating Bcr-dependent B cell activation. *Blood* 107: 1521-1527.

CHROMOSOMAL LOCATION

Genetic locus: LIME1 (human) mapping to 20q13.33; Lime1 (mouse) mapping to 2 H4.

SOURCE

LIME (D-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 232-262 mapping near the C-terminus of LIME of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-166817 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

LIME (D-6) is recommended for detection of LIME of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LIME siRNA (h): sc-60934, LIME siRNA (m): sc-60935, LIME shRNA Plasmid (h): sc-60934-SH, LIME shRNA Plasmid (m): sc-60935-SH, LIME shRNA (h) Lentiviral Particles: sc-60934-V and LIME shRNA (m) Lentiviral Particles: sc-60935-V.

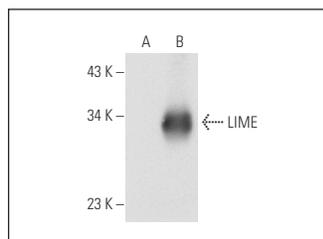
Molecular Weight of LIME: 34 kDa.

Positive Controls: HuT 78 whole cell lysate: sc-2208, LIME (h): 293 Lysate: sc-112792 or CCRF-CEM cell lysate: sc-2225.

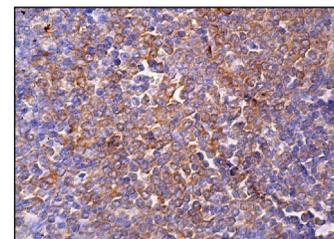
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



LIME (D-6): sc-166817. Western blot analysis of LIME expression in non-transfected: sc-110760 (A) and human LIME transfected: sc-112792 (B) 293 whole cell lysates.



LIME (D-6): sc-166817. Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic staining of cells in red and white pulps.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.