

# LIME (LIME-10): sc-51667

## 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. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609809. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Brdicková, N., Brdicka, T., Angelisová, P., Horváth, O., Spicka, J., Hilgert, I., Paces, J., Simeoni, L., Kliche, S., Merten, C., Schraven, B. and Horejsí, V. 2003. LIME: a new membrane Raft-associated adaptor protein involved in CD4 and CD8 co-receptor signaling. *J. Exp. Med.* 198: 1453-1462.
3. Hur, E.M., Son, M., Lee, O.H., Choi, Y.B., Park, C., Lee, H. and Yun, Y. 2003. LIME, a novel transmembrane adaptor protein, associates with p56 Lck and mediates T cell activation. *J. Exp. Med.* 198: 1463-1473.
4. Lovatt, M., Filby, A., Parravicini, V., Werlen, G., Palmer, E. and Zamoyska, R. 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.
5. Ahn, E., Lee, H. and Yun, Y. 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.

## SOURCE

LIME (LIME-10) is a mouse monoclonal antibody raised against amino acids 281-296 of LIME of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

LIME (LIME-10) is recommended for detection of LIME of human origin by Western Blotting (starting dilution 1:200, 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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

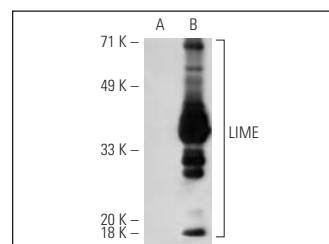
Molecular Weight of LIME: 34 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225 or LIME (h): 293 Lysate: sc-112792.

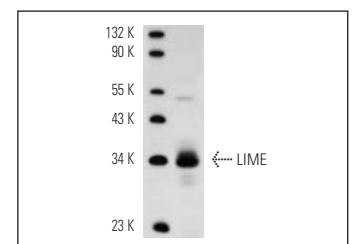
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

## DATA



LIME (LIME-10): sc-51667. Western blot analysis of LIME expression in non-transfected: sc-110760 (A) and human LIME transfected: sc-112792 (B) 293 whole cell lysates.



LIME (LIME-10): sc-51667. Western blot analysis of LIME expression in CCRF-CEM whole cell lysate.

## RESEARCH USE

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