

# LIME (E-1): sc-166818

## 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. Brdicová, 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<sup>Lck</sup> 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.

## SOURCE

LIME (E-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 175-205 within an internal region of LIME of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> 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-166818 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

LIME (E-1) is recommended for detection of LIME of 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) 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 shRNA Plasmid (h): sc-60934-SH and LIME shRNA (h) Lentiviral Particles: sc-60934-V.

Molecular Weight of LIME: 34 kDa.

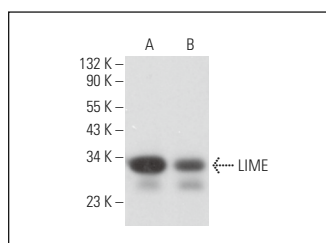
Positive Controls: LIME (h): 293 Lysate: sc-112792, CCRF-CEM cell lysate: sc-2225 or ALL-SIL whole cell lysate: sc-364356.

## RECOMMENDED SUPPORT REAGENTS

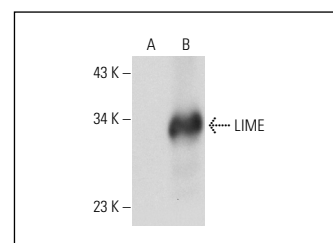
To ensure optimal results, the following support reagents are recommended:

- 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.

## DATA



LIME (E-1): sc-166818. Western blot analysis of LIME expression in CCRF-CEM (A) and ALL-SIL (B) whole cell lysates.



LIME (E-1): sc-166818. Western blot analysis of LIME expression in non-transfected: sc-110760 (A) and human LIME transfected: sc-112792 (B) 293 whole cell lysates.

## 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.

## PROTOCOLS

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